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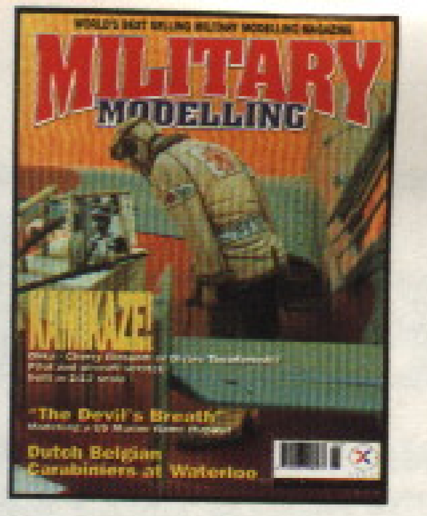

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*Cover: Kamikaze! Or Divine Madness. A large 1:12 scale Ohka suicide aircraft and the pilot figure depicted before the 'last mission'. Modelling feature begins on page 32.*

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| FD707 | BUST Simon de Montfort by Don Weeks 1/9th | £20.65 | 50p |
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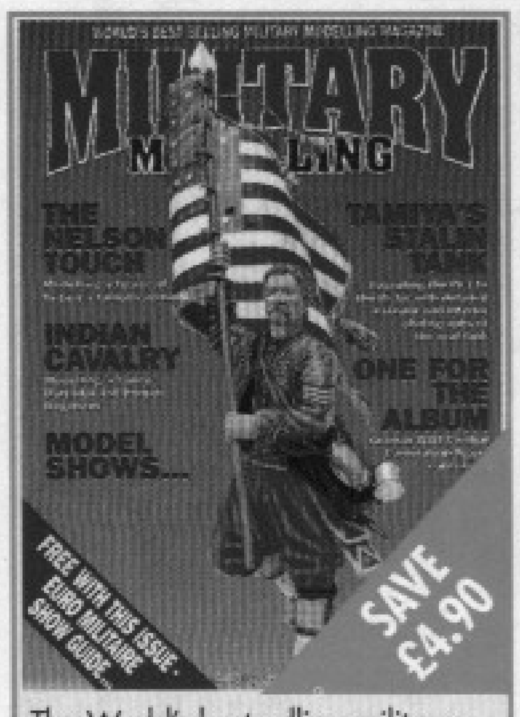
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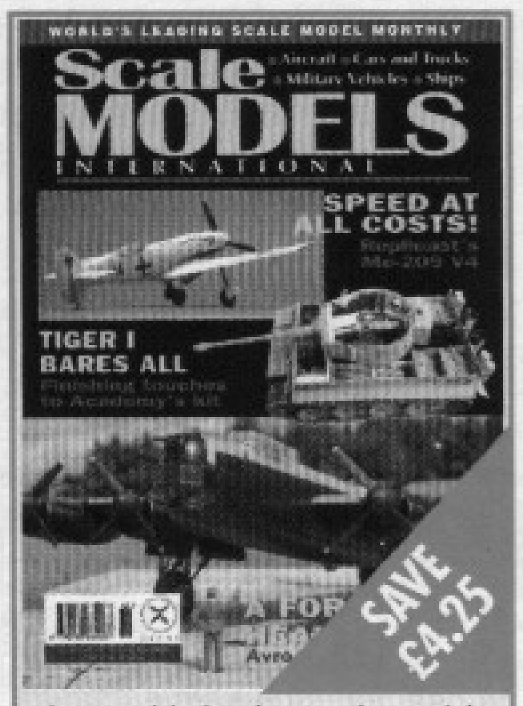
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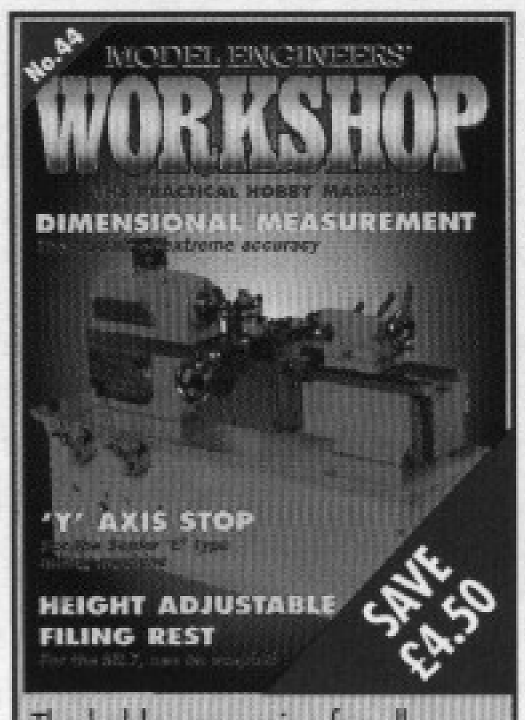
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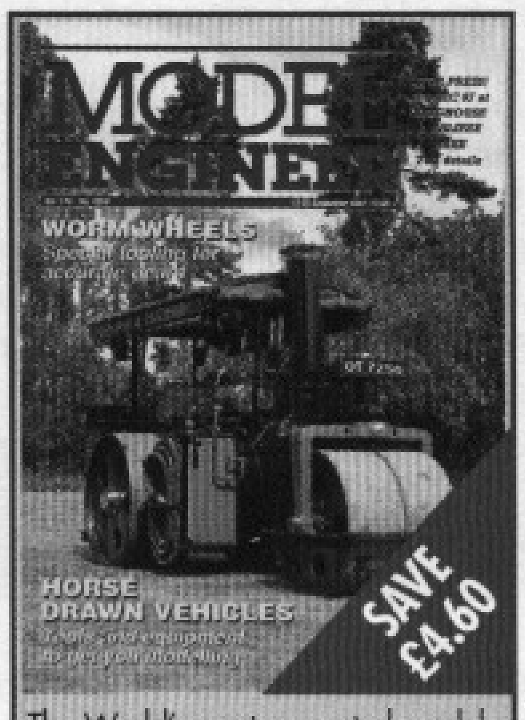
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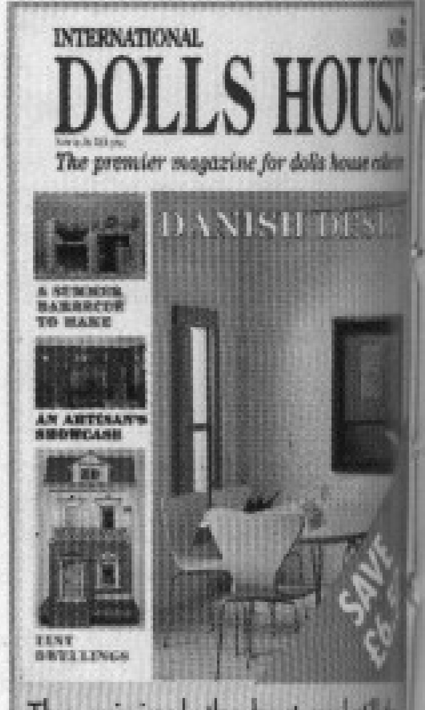
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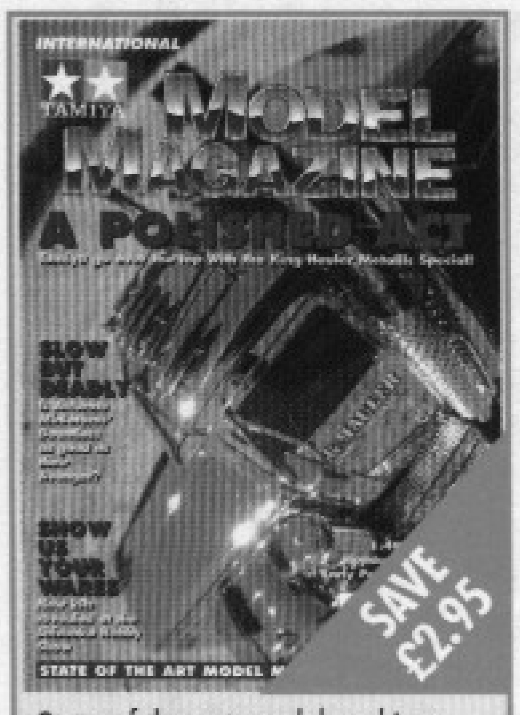
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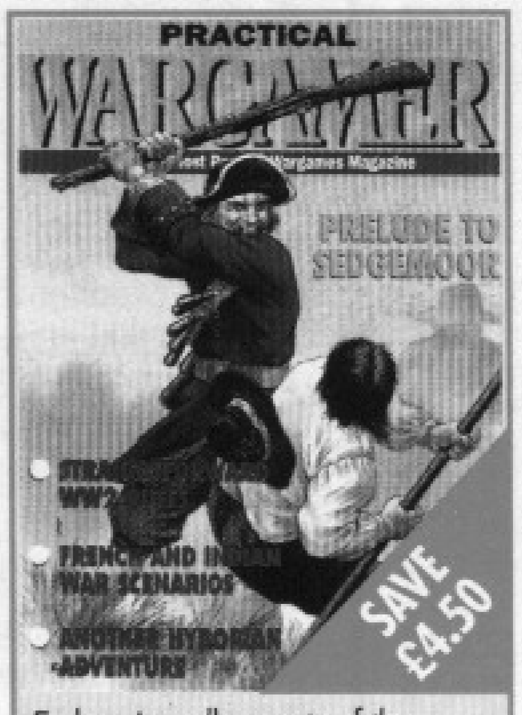
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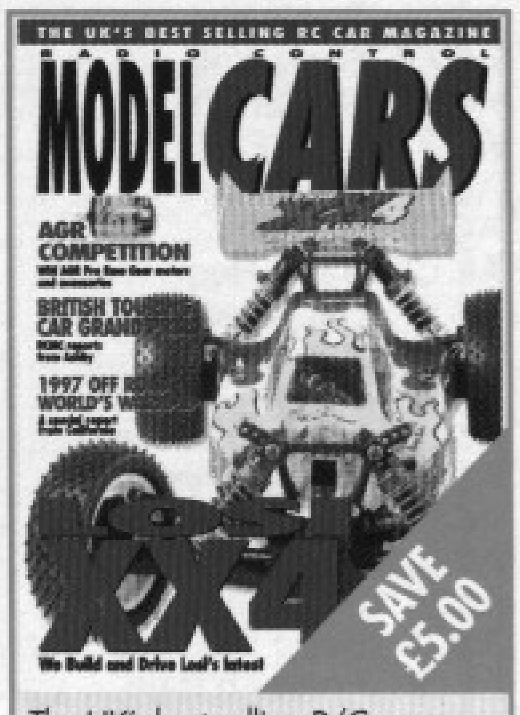
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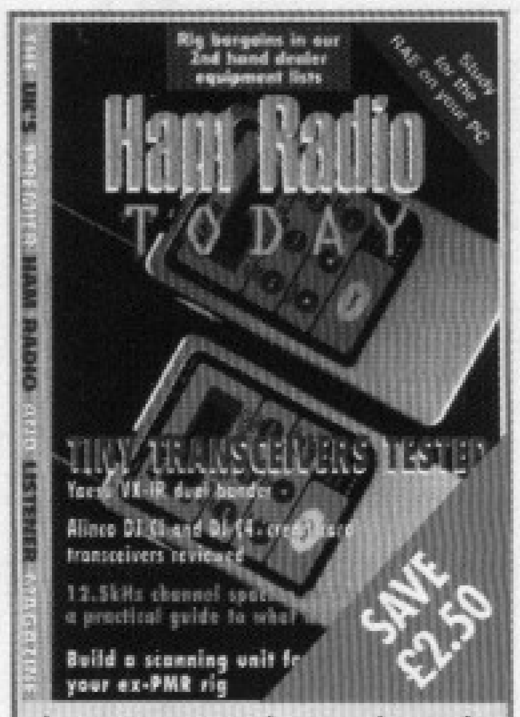
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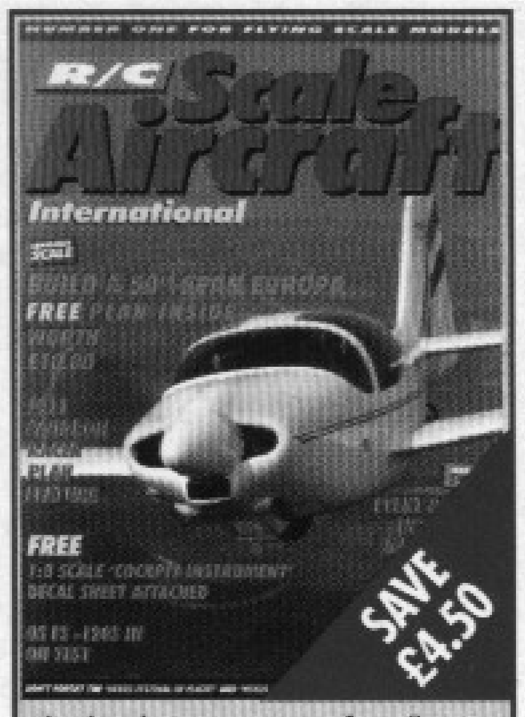
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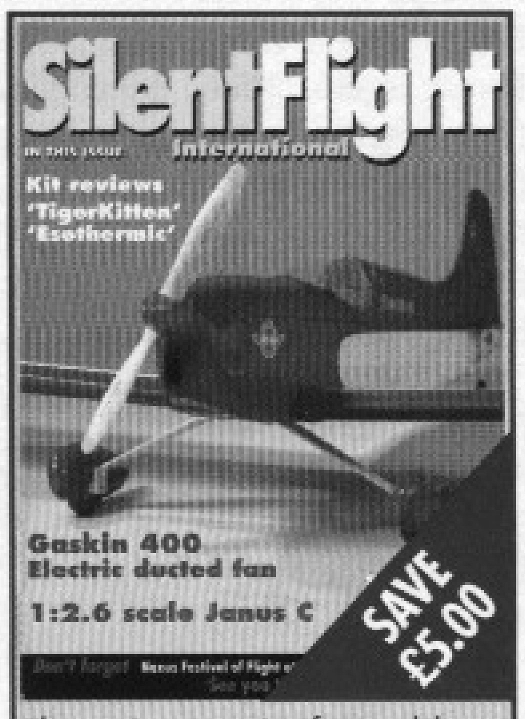
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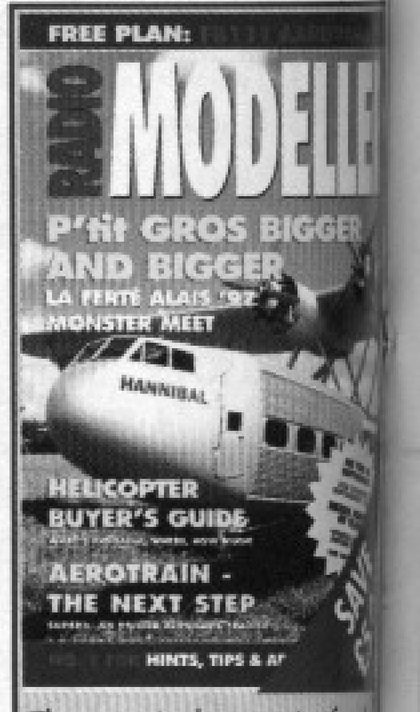
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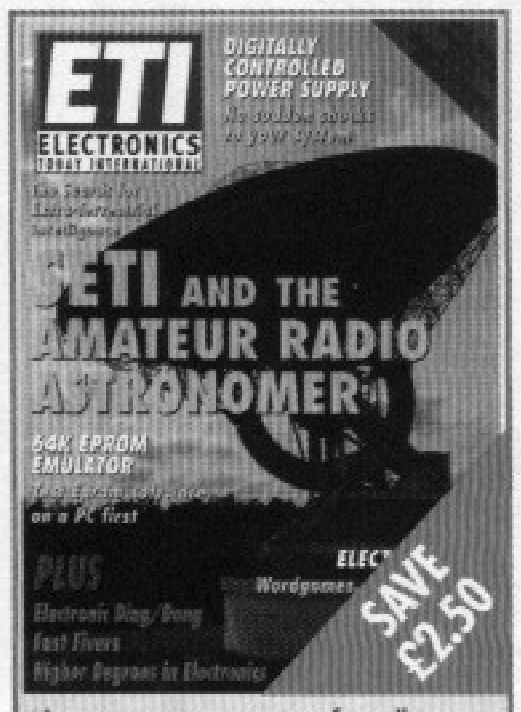
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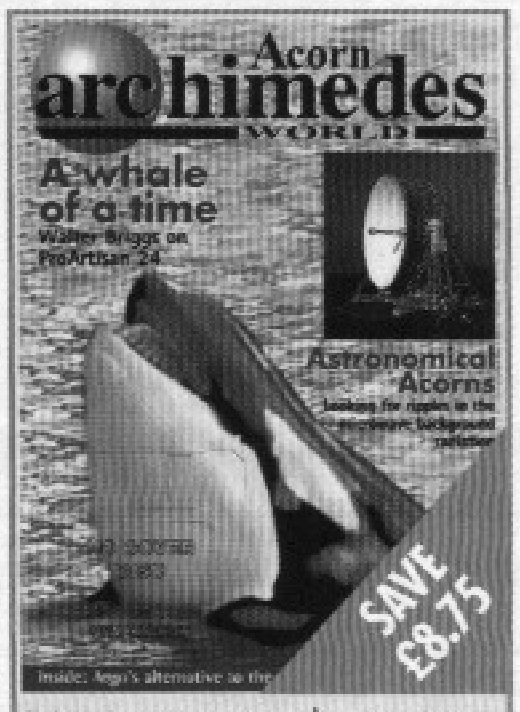
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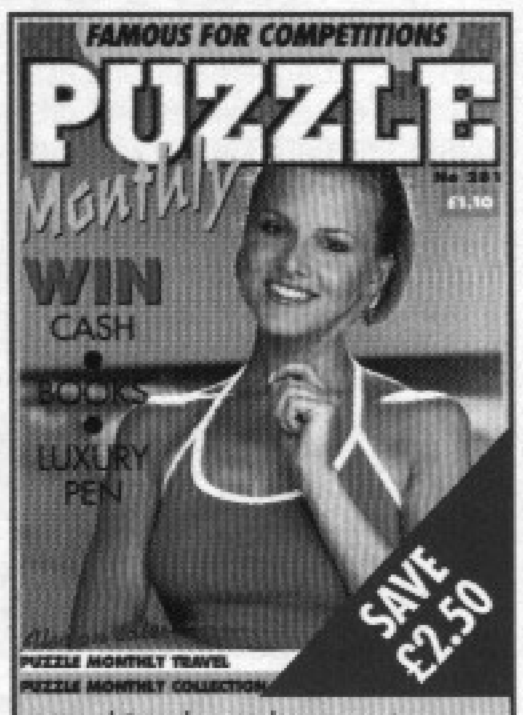
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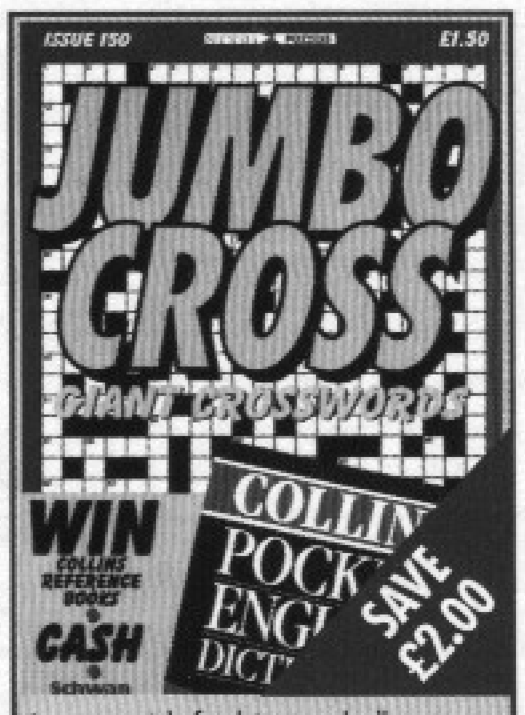
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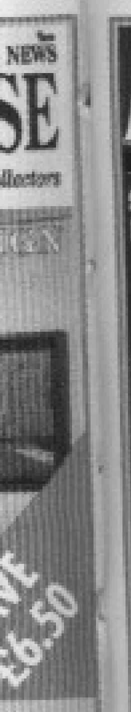

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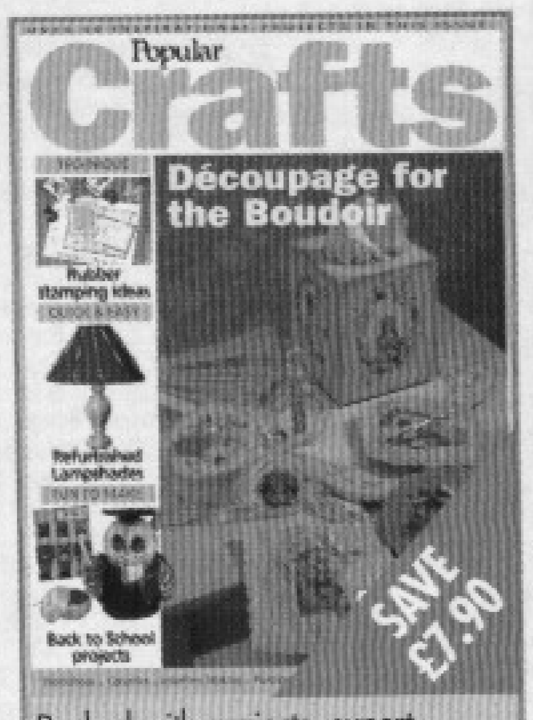

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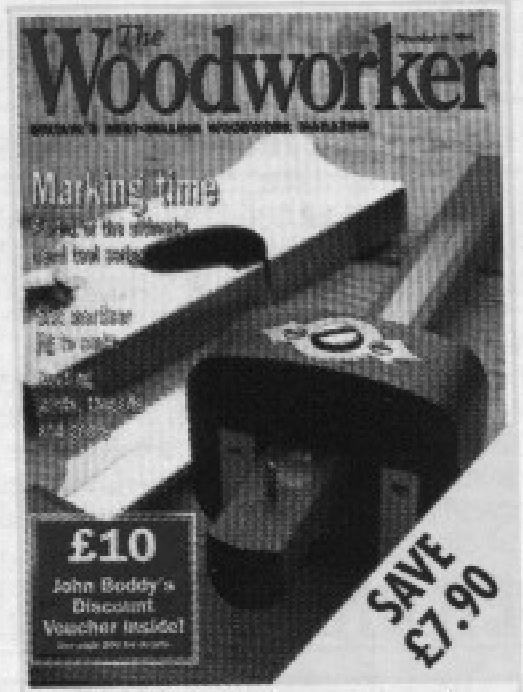

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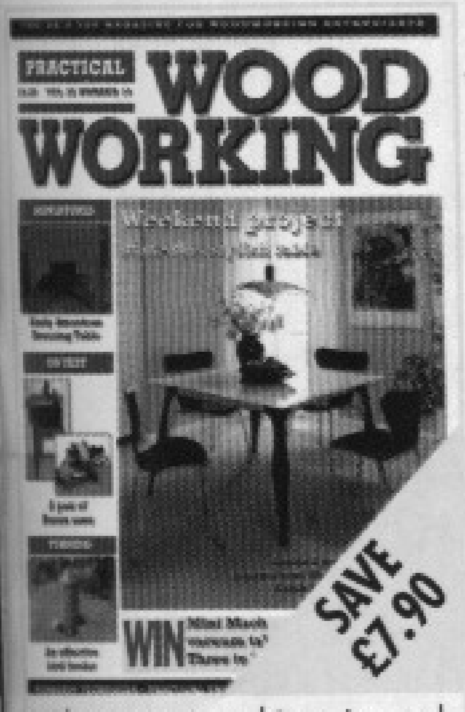

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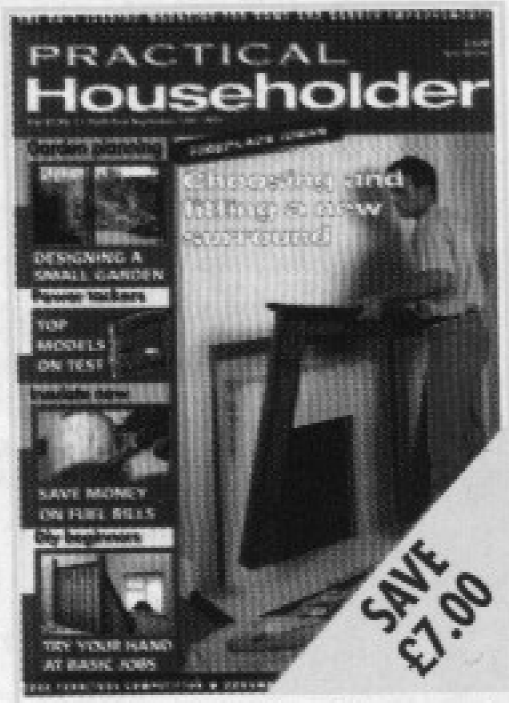

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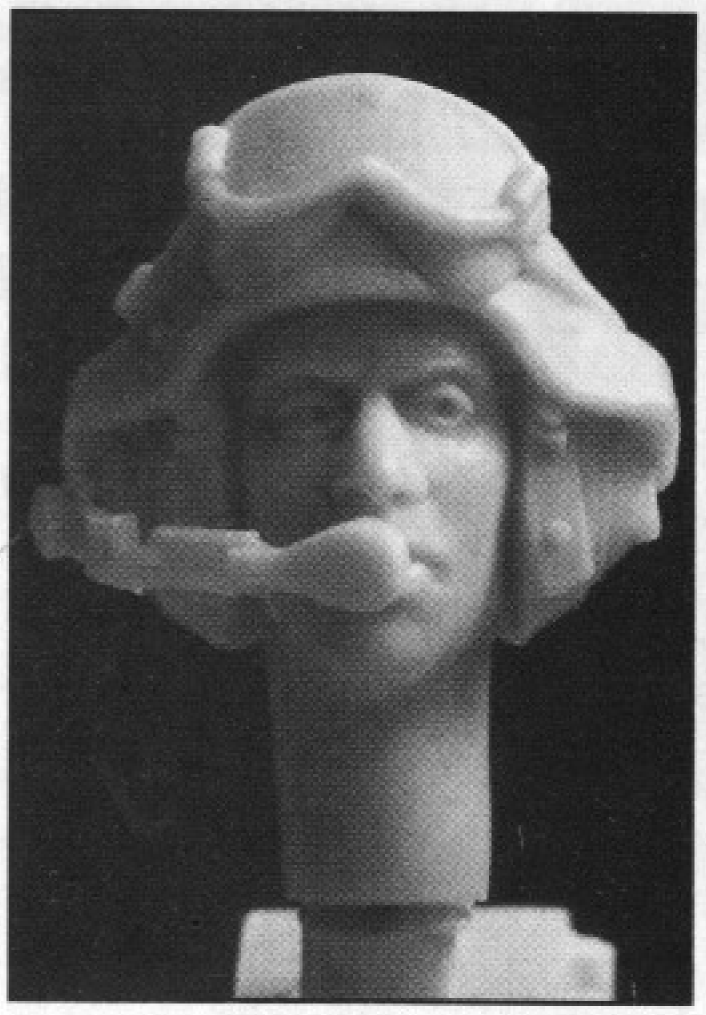

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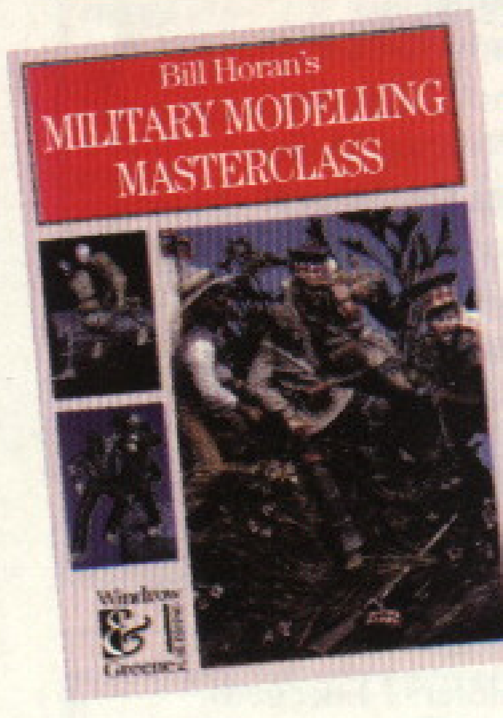

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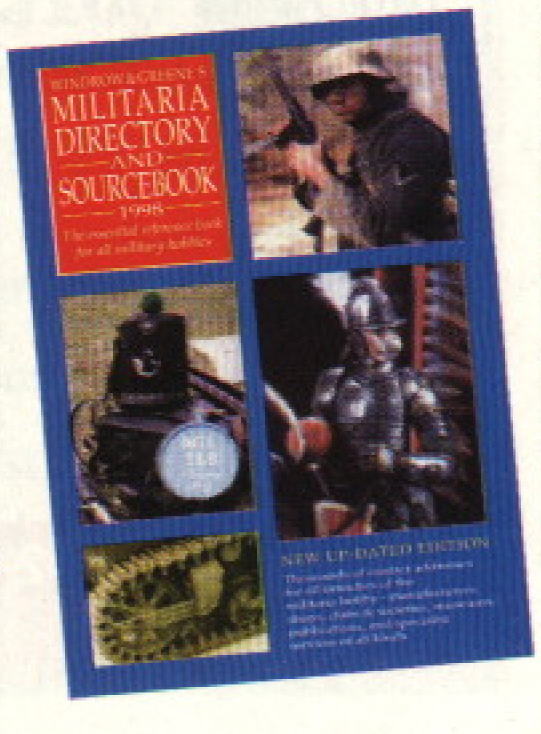

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# NOTICE BOARD

**The Editor welcomes copy for publication in Notice Board. This service is free of charge. Obvious "for sale" notices, either private or trade will not be accepted. These restrictions do not apply to bona-fide museums, collections, etc. Would club/society secretaries please allow a three-month lead time for time sensitive notices. All copy should be sent to Military Modelling Magazine, Notice Board, Nexus Special Interests, Nexus House, Boundary Way, Hemel Hempstead HP2 7ST. Please note: Under no circumstances will copy be accepted by telephone - all notices must be in writing.**

## INFORMATION / DIARY DATES

### Parade Ground '97

Parade Ground '97 takes place on Saturday 22nd November at the Stockton Sports Centre, off Norton Road, Stockton-on-Tees, between 10am and 3.30pm. A leading North East Modelling Club will be staging the modelling competition which will consist of 14 classes.

Amongst the modelling traders will be 'The Turntable' who specialise in stocking East European kits in a number of scales at affordable prices. There will be many fine models on display including an extensive collection of World War Two vehicles in 1:76 scale. Admission is £1.50 for adults and 50p for children and senior citizens, and all proceeds will be donated to charity. For further details please contact David Clemmet or Thomas Davidson on 01642 885406 or Fax: 01642 881625.

### IPMS Norway

IPMS Norway will be holding their annual model competition at the Norwegian Technical Museum, Oslo on the 8th and 9th November. For further details concerning accommodation, travel directions and other general information, please contact Guy Baillie, Heggedalskogen 56, 1380 Heggedal, Norway. Tel: 00 44 66 79 04 38.

### South West Model Expo '97

The South West Model Expo '97 takes place on 25th-26th October at The Tank Museum, Bovington, Dorset BH20 6JG, between 10am and 5pm. A full outside programme will consist of: radio controlled boats, cars, planes, helicopters, free flight rockets, and a steam engine (subject to confirmation).

Inside the museum will be over 200 tables catering for models, traders, clubs and wargamers. Entry is £5 for adults, £4 for senior citizens and £3 for children, a family ticket will cost £13. All tickets include entry to The Tank Museum.

Further information available from The Tank Museum, tel: 01929 405141.

### Annual Show

The Letchworth and North Herts Military Modelling Society are staging their annual show on Sunday 9th November, at Plinston Hall, Letchworth. Doors open at 10am. This will feature open competitions and wargamers. For further details please contact Richard Hyne, 23 Letchworth Road, Baldock, Herts SG7 6AA.

### International Model Show

If you're thinking of putting a model or two in the competition at the International Model Show and Model Engineer Exhibition at Olympia, Tuesday 30th December 1997 to Sunday, 4th January 1998 now's the time to fill in the registration form. There's a competition entry form on page 14 of this issue, along with details of the classes. The diary of events for the show is as follows.

Friday 14th November - final entry date for the competitions.
Friday 12th November - Final date for all posted exhibits to reach Hemel Hempstead office for onward transit to Olympia.
Sunday 28th November - 9am-5pm personal delivery to Olympia of all exhibits.
Monday 29th December - Judging of all competitions at Olympia.
Tuesday 30th December - Show opens to the public 9.30am-6pm.
Thursday 1st January - Publication of competition results.
Sunday 4th January - Last day of the International Model Show. Models may be collected from 6pm until 10pm.
Monday 5th January - Models may be collected between 8am - 11am.
Wednesday 21st - Final day for the collection of models that have been returned to the Hemel Hempstead office from Olympia.

### Crisis '97

Tin Soldiers of Antwerp presents "Crisis '97", the second Flemish Wargame Convention and International Painting Competition, which takes place on 29th November 1997 at the Recreation Centre 'De Mix', Ekeren (Antwerp), Belgium. For further information telephone Willie on 00 32 3 6471818, or Axel on 00 32 3 3256665, or Fax 00 32 3 3258238. They can also be contacted via e-mail at willie@glo.be

### War Studies

The University of Birmingham is holding War Study classes. The programme is designed as a two-year course with a mixture of evening, day-school and residential week attendance. Participants are asked to undertake private study, critical evaluation of and reflection on their findings, and to maintain a learning journal for the duration of the programme. The learning and assessment techniques include seminar papers, syndicate work, information technology assignments and field reports. There are no written examinations.

All classes will be initially offered at the School of Continuing Studies, The University of Birmingham, 58 Edgbaston Park Road, Birmingham B15 2RT. The course is open to anyone over the age of 18 and no formal entry qualifications are required. For the year 1997/98 the fee for one year of part time study is £380 (which may be paid in instalments).

Anyone interested should write to The Marketing and Publicity Office at the above address, or telephone 0121 414 5607/7259.

### 100 Years of Modelling

This year, IMEX will be celebrating the Centenary of both Model Engineer magazine and the Society of Model and Experimental Engineers, together with a number of other Anniversaries, including the 75th of the British Model Flying Association and the 25th of the British Radio Car Association.

All this promises one of the most interesting and exciting events for many years. With thousands of models on display, there will be more competition entries, more clubs, more specialist exhibitors and trade stands and more feature events. The ever-popular Olympian Railway, car track, boating pool, flying hall and SM&EE workshop will be in full swing with demonstrations and helpful advice from acknowledged experts in their fields.

These traditional features will be supported this year by larger and enhanced displays of plastic and military modelling and miniature railway layouts operating under the aegis of their respective national bodies.

At IMEX, the world's premier modelling exhibition, you will be able to enjoy superlative craftsmanship in the models on display together with a spectacle of thrills, spills and continuous excitement for all the family. Don't miss it. Make a date in your personal and club diaries: 30th December to 4th January, Centennial International Model Engineer Exhibition, Olympia.

### Whoops!

We printed the wrong address in Small Scale Scene Vol.27 Issue 13 on page 44 for the suppliers of Plus Models from the Czech Republic. This should have read F&F Models, 44 Bretby Road, Newhall, Swadlincote, Derbyshire DE11 0LJ. Apologies to F&F Models and readers for this unfortunate mistake.

### INTERNATIONAL MODEL SHOW

### Dates for your diary

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**Wednesday 21st Jan.**
Final day for collection of models returned to Hemel Hempstead office.

**For further details telephone: 01442 266551**

### Back to Normal

The North Surrey Military Model Group meet on the 3rd Monday of each month at the All Saints Church Halls, New Road, Mitcham Common, from 7.30pm to 9.30pm. All aspects of military modelling are encouraged, except wargames. Members are invited to bring along their latest models and new members are most welcome. For further information contact Wally Edwards on 0181 698 0890 or Kevin Jarratt on 0181 393 8534.

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# NEXT ISSUE

## Volume 27 No.16 will be published 31st October 1997

**Military Modelling** is now published every four weeks and throughout this year there will be an extra SIX copies of your favourite magazine to look out for. Keep an eye on this 'NEXT ISSUE' panel in each magazine for the publication date of the next one in line.

Your future copies of **Military Modelling** will, henceforth, be identified by an issue and volume number rather than by month and year.

**The next issue will be a SPECIAL ISSUE...**

## THE BEST OF EURO MILITAIRE 1997

**Featured will be the best models from around the world that were entered in the competitions and seen on display at Folkestone, plus the many full size attractions at this very successful and most popular show on the military modelling calendar...**

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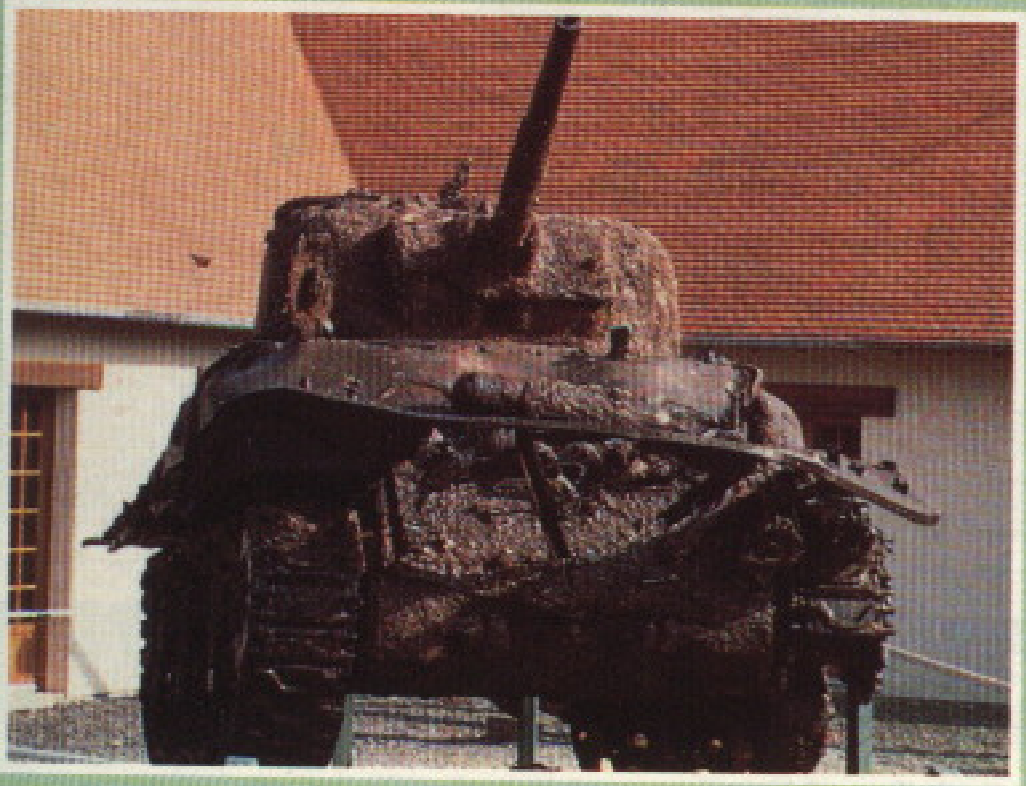
EURO MILITAIRE
POUR LE MERITE

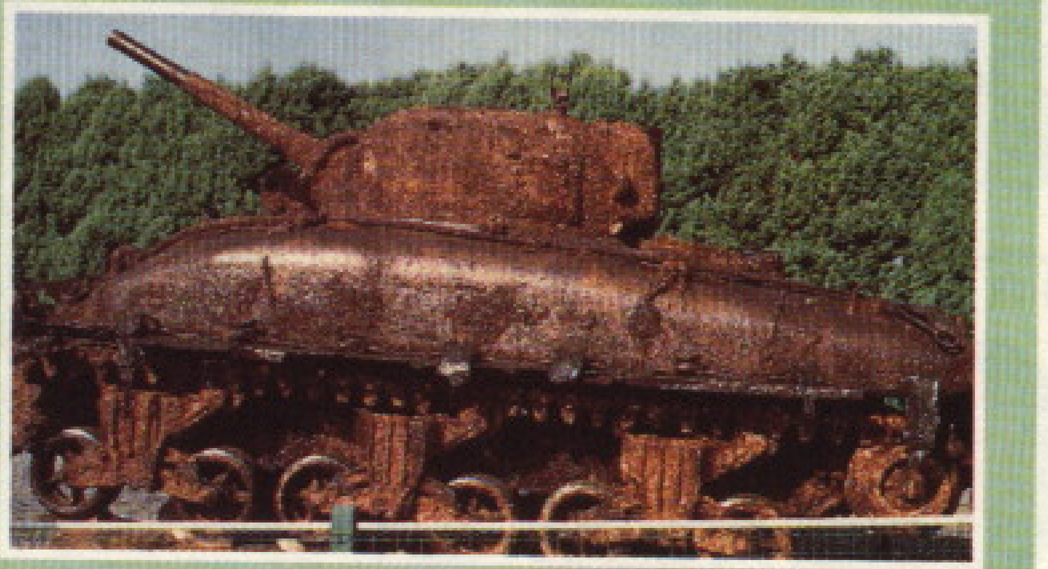
# DESPATCH

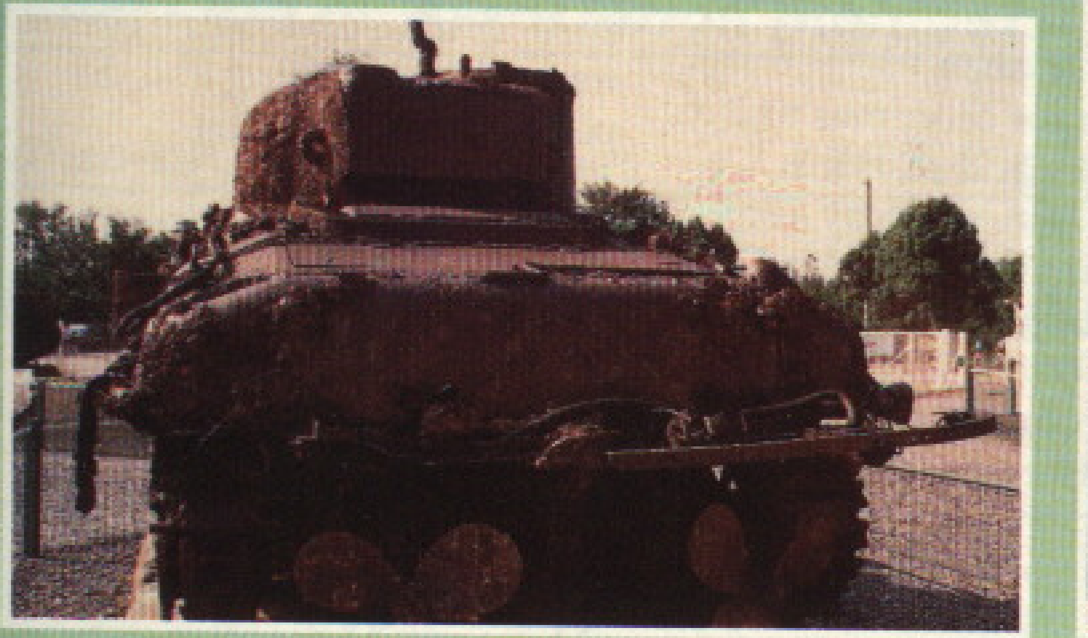
The Editor welcomes readers' letters for publication which must always be accompanied by the writer's full name and address. The address will be published in full if the letter is interpreted as a request for information to the readership. Otherwise only the writer's full name will be published. Letters are not, under any circumstances, altered or severely edited; however, they may be shortened because of available space restrictions.

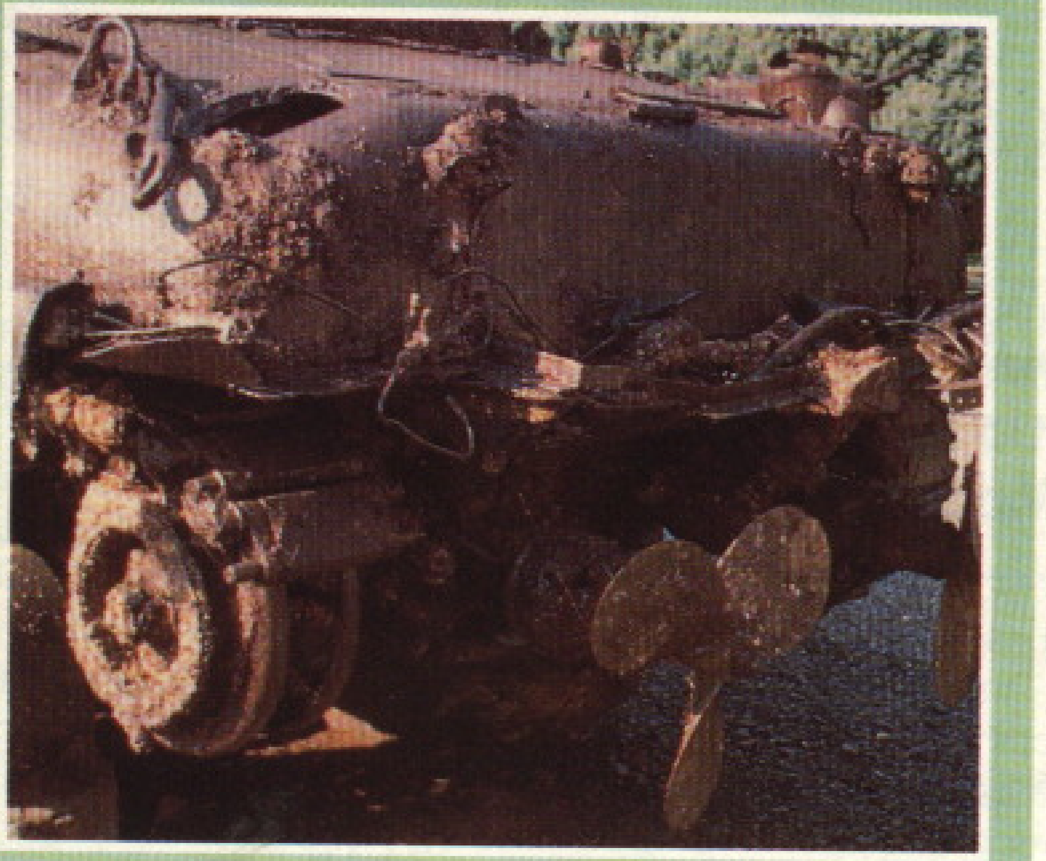
Letters to the Editor intended for publication should be addressed to "Despatch", Military Modelling, Nexus Special Interests, Nexus House, Boundary Way, Hemel Hempstead, Herts HP2 7ST.

## READERS' LETTERS









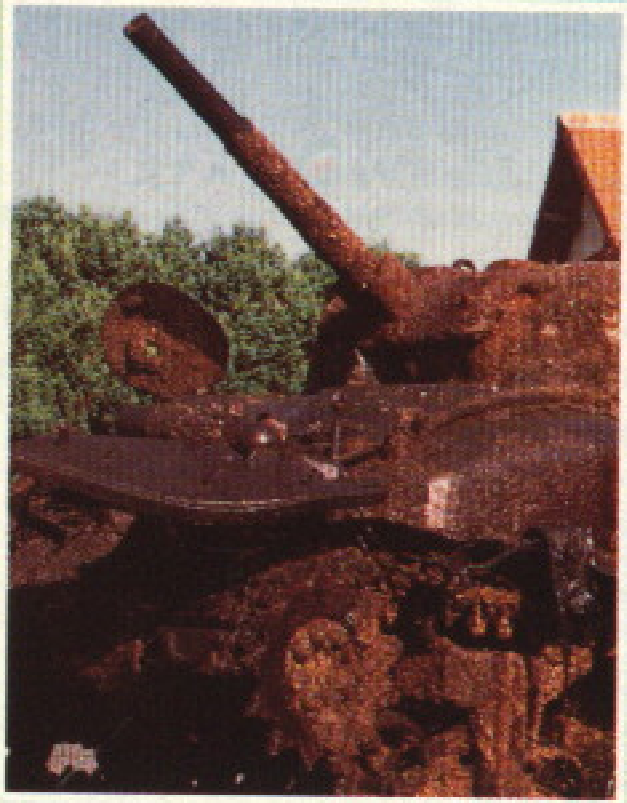
### Sherman stories

Dear Sir,
I am sending you five colour pictures which I feel might be of great interest to many readers of your magazine, because they show quite a rare version of the M4 Sherman tank.

As you will certainly know, the existence of late hull M4A1 tanks fitted with a 75mm gun turret has been denied for many years (see for example the classic books *Sherman* by R.P. Hunnicutt, and M4 *Sherman in Action* by B. Culver). Recently, however, it has been claimed that some M4A1 late hulls (dry) were indeed fitted with 75mm gun turrets (see the articles by P. Harlem, published in *Military Miniatures in Review* Vol.3, Issue 3, 1995, and by D.P. Dyer, published in Autumn 1996 *Military Modelling Special*). Nevertheless, I do not remember having seen a published picture of this rare Sherman variant.

The enclosed pictures were taken during a recent trip to Normandy and they show a late hull M4A1 fitted with a 75mm gun turret. The tank (or I should say the wreckage of it) is located in a museum in the small town of Port-en-Bessin, close to Bayeux. This museum is called *Musée des épaves sous-marins du debarquement* (literally Museum of the underwater wrecks of the Normandy landings). This DD Sherman belonged to the ill-fated 741st U.S. Tank battalion, supposed to support the infantry landed at *Omaha* Beach. However, the great majority of the tanks of the battalion sank at once when launched from their LCTs. The wreckage was recovered from the sea bottom many years after the end of the war.

Some of the distinctive features of this peculiar Sherman variant are apparent in the pictures. Note the larger open hull hatch, hinged at a wider angle compared with early M4A1 hulls. The thickened armour protecting the ammunition stowage in the forward part of the left hull side and the sloped rear of the hull with no cut-out.



It seems that the turret is of the late type (but I am not sure about this). Note the M34A1 turret gun shield, the one-piece, late pattern, armoured differential housing, but also the early type, spoked, road-wheels.

I hope that you will find the pictures interesting and may consider them for publication in your magazine, of which I am a faithful reader.

**Dr. Alberto M. Martelli**
**Italy**

### Pike

Dear Sir,
I felt compelled to write this after seeing Steven Zaloga's article on the JS-3m. I believe that the kit of the 'Pike' represents the 1945 full production version which saw action in WWII and not the 1946 version (no offence to Mr. Zaloga) or the kit could be an amalgamation of both versions.

As for its combat record. In a recent copy of your sister magazine, *Tamiya Model Magazine International*, Australian reader, Darren Toskov, states, and I quote:

"During the defence of the Vienna Bridgehead on April 12th 1946, a German tank ace *SS. Obersturmführer* Arnold Frieson, commanding Panther Tank number 227, encountered a JS3 and destroyed it, striking the JS3 just below the turret ring. **Gary Watson**

## 'CRIES FOR HELP'

**● I intend to build a Challenger in BATUS colours, but only have a few references. Could anybody please supply me with some photos showing the Challenger in the characteristic green/sand camouflage? If possible, I would appreciate to get four side views of one particular vehicle (overall views are OK, no detail photos necessary) enabling me to build a model of an existing vehicle. Any costs will be met.**
***Stephan Hinz, Dammweg 4, D-28844 Weyhe-Dreye, Germany. Tel. (49) 4203 78 68 12.***

**● Recently I was lucky enough to be given a 1:24 scale Tamiya Tiger I tank and Tamiya 1:24 scale German Infantry figures by a friend. Shortly after this, I visited a model show in the north and saw a Tamiya 1:24 scale Russian T34/76 and an SU100. My interest in modelling armour is with the Russians mainly, and I would dearly like to do a diorama with 1:24 scale tanks.**

**My problem is this: Tamiya have stopped producing the 1:24 scale T34/76 and SU100, and I am unable to find either. Can any readers help? Does anyone have a T34 or SU100 in 1:24 scale which they could sell me, or does anyone know where I can purchased either or both? I would prefer an unmade and boxed one, but will consider buying a made-up one.**

**However, as a UB40 holder, my funds are limited somewhat, but I am willing to pay up to £50 for each tank. If anyone can help, please contact me ASAP. Many thanks.**
***Tony J. Howell, 23 Ermine Road, Hoole, Chester, Cheshire CH2 3PN.***

**● I desperately need some tins of Testors Dull Cote 1260 Clear Flat Lacquer Overcoat. These are currently unobtainable in the Czech Republic. I can swap MPM or Condor or Cooperativa models. Can anybody please help.**
***Jaromír Seidl, Belcická 2840/11, 141 00 Praha 4, Czech Republic.***

**● Can anyone help me with information on the various types of small arms used during the Spanish Civil War? I would like to model figures from the period but I am let down by my lack of material on the weapons. I would also appreciate details of the design of the Collective Military Medal worn as a sleeve badge by some Nationalist Army units. Any assistance would be gratefully received.**
***John Davies, 28 West View, Bedlington, Northumberland NE22 7JX.***

# THE INTERNATIONAL model SHOW

## *and The Model Engineer Exhibition*

OLYMPIA 30 DECEMBER - 6 JANUARY 1996

### Time is getting short and now is the time to think about entering your model in this year's International Model Show

The International Model Show, incorporating the Centennial Model Engineer Exhibition, will run from Tuesday 30th December, 1997 to Sunday 4th January 1998, at Olympia, West Kensington, London.

This year the show will not only celebrate 100 years of model engineering, but there will also be a dedicated area for military modelling, including active wargames displays and competition cases. One side of the gallery will be dedicated to plastic modelling under the supervision of the IPMS (International Plastic Modellers Society).

Competitions are a major feature of the show and an entry form for the various classes is included at right. The closing date for entries is 14th November, and the models will be required to be delivered to Olympia on Sunday 28th December. Because of time limitations, Nexus have to reserve the right to move the models once delivered to the reception area. This will be done by our well established and experienced stewards, who have looked after the competition models for many years. A limited collection service, dependent on area demand will be in operation, details will be available during late September on application. Tel: 01442 266551.

The classes that Military Modelling readers are likely to be interested in are listed here along with those for the Junior Section. If you require a full list of Competition Classes for the show, please send a stamped self-addressed A4 envelope (approx. 320mm x 230mm) inside an envelope clearly marked "IMS Competition Categories" to: Events Dept., Nexus House, Boundary Way, Hemel Hempstead, Herts HP2 7ST.

Any clubs or societies who are interested in exhibiting at the show should write for details to the same address.

### Dates for your diary

| | |
|---|---|
| **Friday 14th Nov. -** | Final entry date. |
| **Friday 12th Dec. -** | Final date for all posted exhibits to reach the Hemel Hempstead office for onward transit to Olympia. |
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## Competition Classes

### Military Model Section

**Class E1.** Dioramas. Competition for dioramas and vignettes up to a maximum base size of 14in. wide by 18in. long and 12in. in height (incl. case). Subjects may be in any scale but must come within the maximum volume and be of a military nature.

**Class E2.** Unconverted commercial single figures - any scale but must be of a military nature, (i.e. unconverted - model assembled and painted without modifications of any kind). However, scenic dressing to the basework is permitted, and will be taken into consideration by judges.

**Class E3.** Scratchbuilt or converted single figures - any scale, but where total height of model exceeds 12in, a protective display case must be provided by the competitor.

**Class E4.** Non-engineered models of single military vehicles or artillery pieces, up to and including 1:25 scale. Entries may include up to a maximum of three figures and must be presented on a base. (Non-engineered means a model built from a kit, in plastic or metal, or a combination of materials, or scratchbuilt, with basic model-makers' materials and tools).

**Class E5.** Engineered military models; cannons, guns, tanks, etc., built primarily from metal and wood and usually with the use of a lathe.

**Class E6.** Wargames figures (30mm and below). Entries should be of Wargame Units, minimum 12 mounted or 20 foot figures, rather than mini-dioramas.

**Class E7.** Single flat figures, 30mm and above, of any military subject. Single figures only and must be mounted on a base, in a display frame or box for ease of handling and display at the Exhibition.

**Class E8.** Flat figure groups (two or more figures) of any military subject. Figures must be mounted in a display frame or box for ease of handling and display at the Exhibition.

### General Modelling

**Class F1.** Scenic Dioramas, architectural and representational models (not listed elsewhere).

**Class F2.** General craftsmanship entries (not listed elsewhere).

### Model Horse Drawn Vehicles Section

**Class G1.** Carriages and other sprung vehicles. (Omnibuses, trade vans, etc).

**Class G2.** Wagons, carts and farm implements.

**Class G3.** Caravans.

### Junior Section

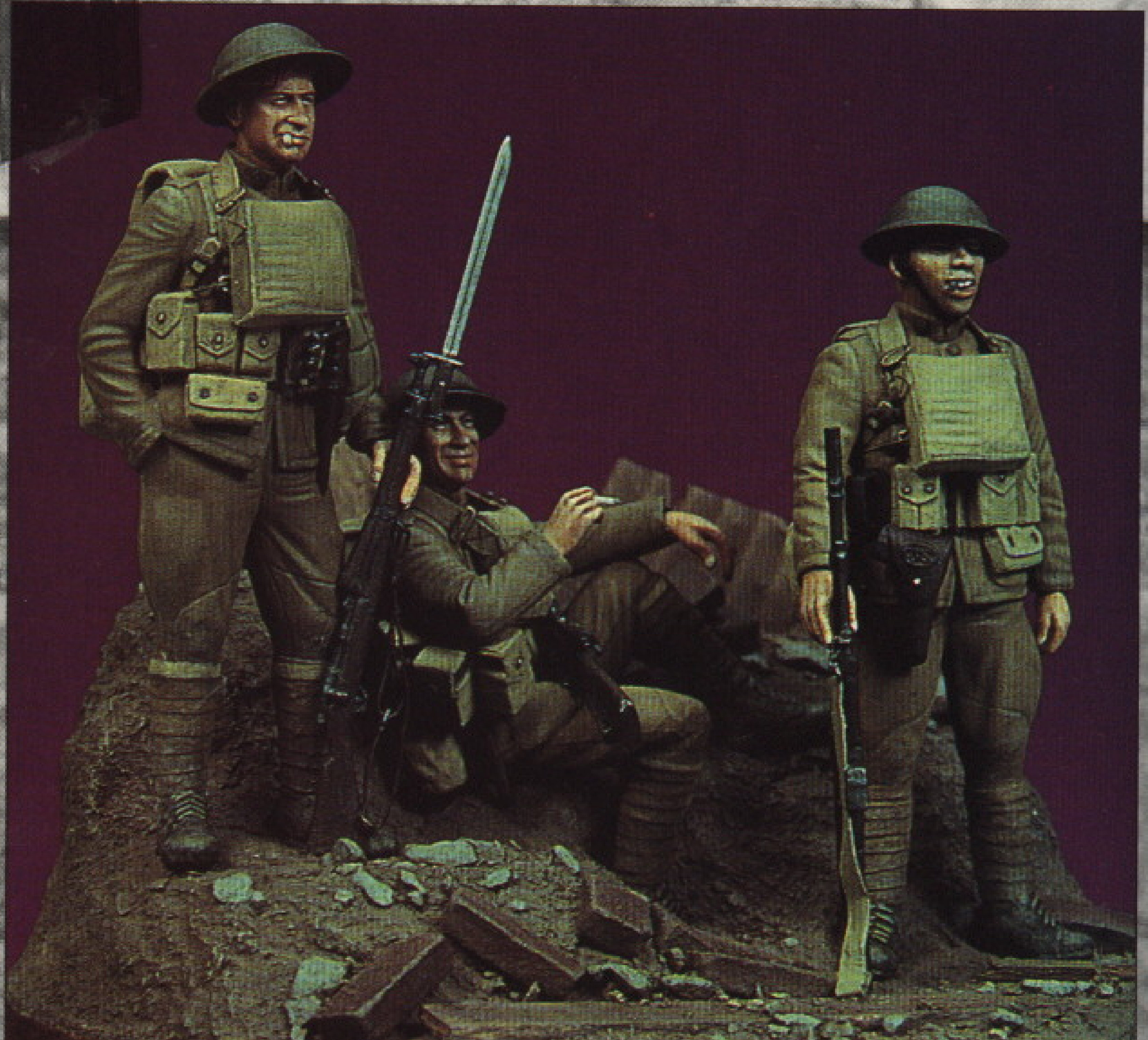
**Class J1.** For any type of model, mechanical or engineering work by an under 14 year old.

**Class J2.** For any type of model, mechanical or engineering work by an under 16 year old.

**Class J3.** For any type of model, mechanical or engineering work by an under 18 year old. All entries will be judged for standard of craftsmanship, regardless of the modelling discipline, i.e., a boat will not be competing against a military figure. Providing a model attains sufficient marks it will be awarded a Gold, Silver or Bronze Medal. Commended certificates are also awarded.

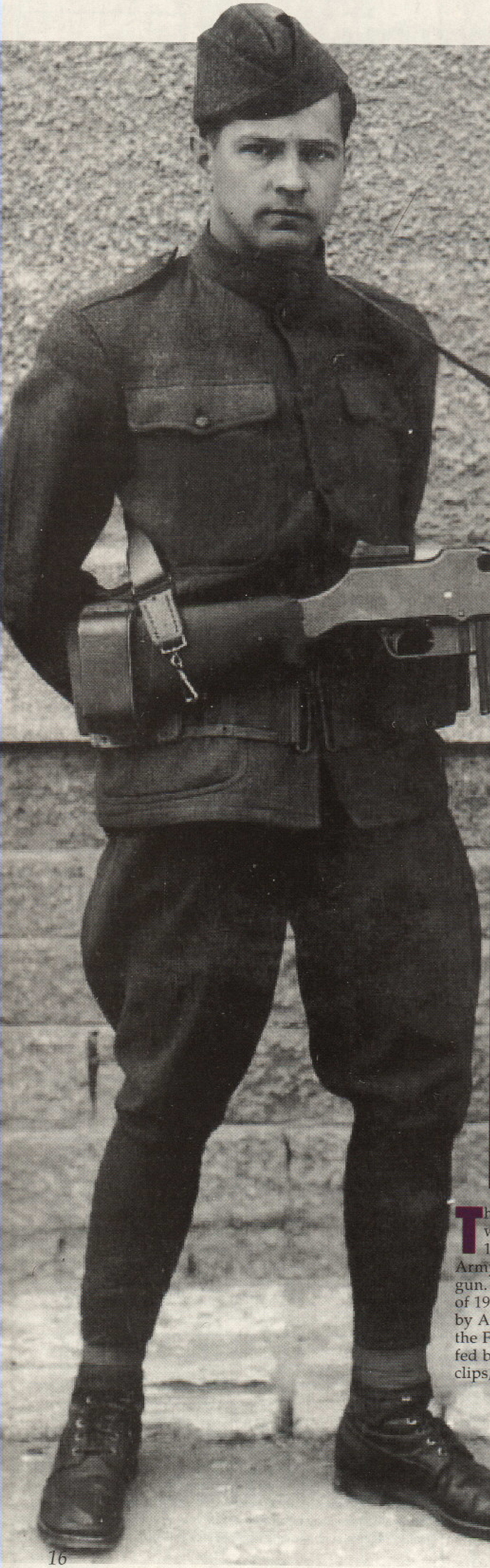
# US Infantry BAR Team

**Tom Wictor models a vignette of a three-man US Army Browning Automatic Rifle Team as they would have appeared in France, October 1918**

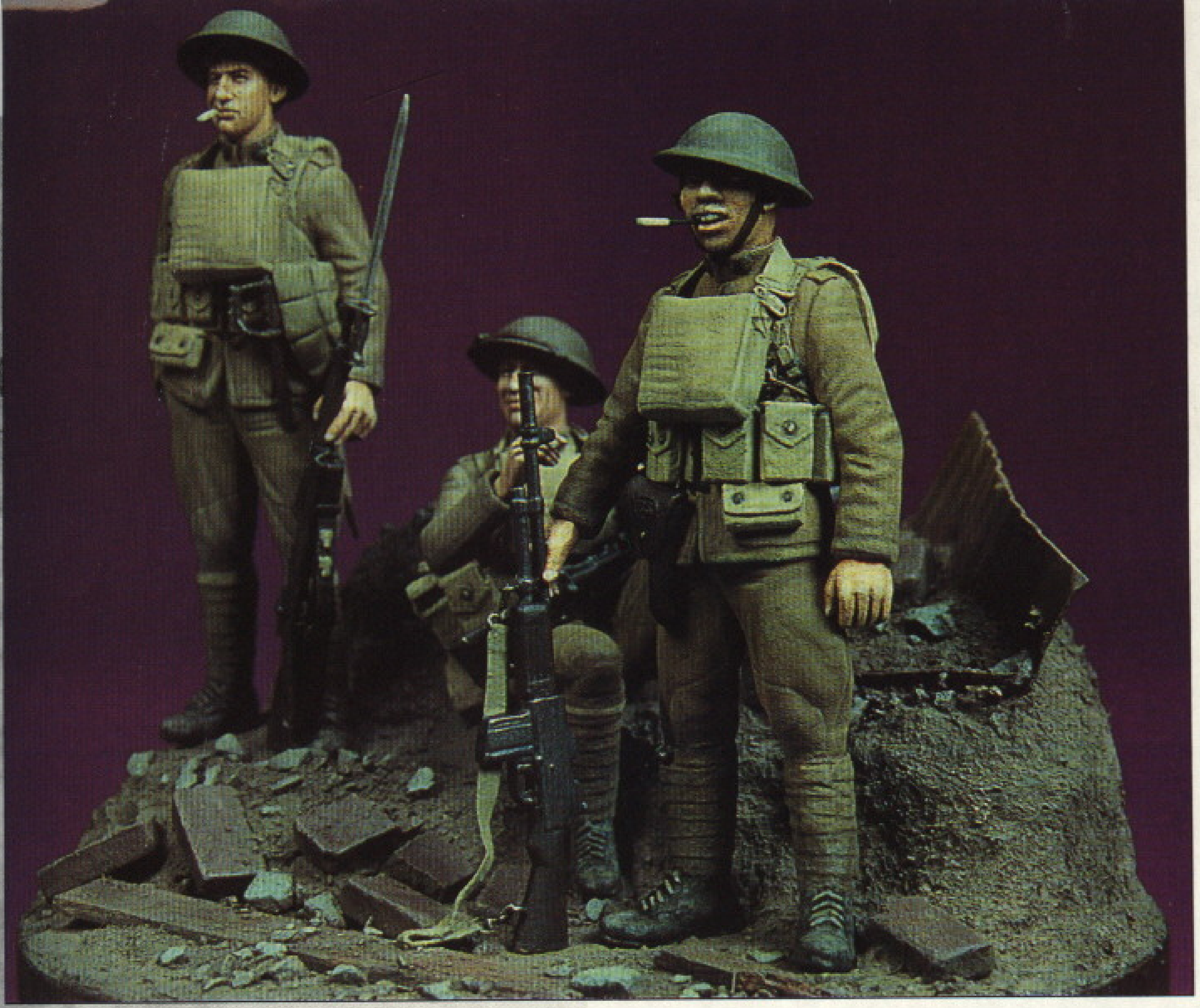


The Browning Automatic Rifle (BAR) was developed by John Browning in 1917 in order to meet United States Army requirements for a light machine-gun. It went into production in February of 1918 and 4,600 were eventually used by American troops before the end of the First World War. Gas-operated, and fed by 20-round box-type ammunition clips, the BAR was capable of either single shots or sustained fire, though at 16 pounds it was too light to be accurate when used as a machine-gun and too heavy to be used as an assault rifle! With modifications, this weapon was used by the U.S. Army in two subsequent wars.

During the First World War, the United States Army fielded three-man BAR teams consisting of the Automatic



*Browning Automatic Rifleman with his weapon, known officially as a 'light machine-gun.' The BAR is shown with the butt fitted into a metal socket on the belt, in the position intended for providing covering fire during an advance over open ground. Unless this is an unusually tiny soldier, one can see just how long and bulky the BAR actually is. US National Archives.*



*Views of the completed vignette, show details of equipment from different angles. Figures are, from left, the Assistant Automatic Rifleman, the Ammunition Bearer, and the Automatic Rifleman. Note the lightened 'assault order' of the infamous American long pack, as well as the cigarette holder of BAR gunner, an affectation of the AEF.*

Rifleman, Assistant Automatic Rifleman, and Ammunition Bearer. Each member of the team was equipped with specialised webbing belts or bandoleers that carried 28 clips of .30-06 calibre ammunition altogether, giving a total of 560 rounds. When the team's personal weapons of pistols and rifles are included, it is apparent that these groups were capable of bringing an impressive amount of firepower to bear.

## The vignette

The vignette shows a BAR team in assault order during the final weeks of the First World War. They are resting in the ruins of a village used at one time as an observation post or headquarters, as evidenced by the corrugated metal sheeting. By October of 1918, the Allies had broken out of the trench stalemate of the Western Front and the War was being fought across open fields and forests again. Like most 'doughboys', they seem to be bursting with confidence and vitality, having avoided the previous three years' worth of mud-choked misery.

## The figures

The figures are based on Tamiya's 1:35 scale German Soldiers at Rest kit. Two of the heads are from Hornet, and the third, that of the BAR gunner, is a modified head from the Airfix Multipose US Infantry Europe kit. This was originally a Negro head, but as I wanted to show a Chinese-American soldier, and no such replacement part with the required smiling expression could be found, I had to go with it. Basically, the head itself was carved down to 1:35 scale, leaving the face intact. The corners of the mouth were modified slightly with Milliput epoxy putty and the eyes were resculpted somewhat with a hobby knife.

Uniform details were carved off of the tunics, and the lower legs were scraped down to the semblance of nudity. The flared portions of the semi-breeches, the standing collars, and the pockets were built up from Milliput, and appropriate arms were selected from the original kit, as well as Tamiya's German machine-gun crew kit. Hands are, for the most part, Verlinden Productions with one or two from Airfix. Puttees were cut from newspaper and attached with cyanoacrylate glue, while boots and Brodie helmets were taken from the Airfix Multipose British Eighth Army kit.

## Weapons and equipment

The belts and webbing straps were cut from sheet styrene and crisp photocopying paper, with buckles and hooks from brass wire. All ammunition pouches, first aid pouches, the .45 pistol holster, and canteens were taken from the Dragon U.S. Marines Korea 1950/51 kit. The ammunition bandoleer carried by the assistant rifleman, as well as the assault packs and box-type respirators, were sculpted from Milliput. Finally, two of the figures were given bayonet sheaths cut from Contrail strut material.

The BAR is a modified Airfix item that was cut into component parts of the butt, breech, grip, and barrel. Each part was shortened slightly to match the dimensions of the Dragon BAR, which although nicely detailed was far too slender a representation. The rifle was modified to an M1918 version and the parts glued together. The two other members of the team received resin M1903 Springfield rifles cast from a scratch built master. These were fitted with heat-stretched sprue bayonets, paper slings, and brass wire swivels. All three figures were supplied with resin 'knuckleduster' trench knives cast from a scratch built master, the BAR gunner's being tucked into the puttee of his right leg.

## Painting

The figures were undercoated with Poly- S Flesh applied with an airbrush, and the faces and hands finished with Liquitex artists' acrylics.

The BAR gunner was the first Asian figure I had ever done, so I was probably a little too understated in trying to represent his skin tone. The uniforms were finished in two slightly differing shades of khaki brown, and the equipment was painted in shades of pale yellow and pale green. The blued weapon parts were simulated by first painting them light gray and then 'colouring' them in with a graphite pencil. This was sealed with a semi-gloss varnish and given several washes of a thinned flat black.

Most of the detail painting consisted of trying to simulate dirt and grime without overstating it, done with washes of dark brown and stippling with a light earth tone. The figures were supposed to look as if they'd been living rough for only a few weeks, not the years the other combatants had spent living in their trenches.

## The base

The base is a short column purchased at a trophy store, originally intended for a bowling award. The low rises were built up with Styrofoam covered over with a layer of Celluclay instant papier-mâché and cat litter. The corrugated sheet is from Verlinden Productions and the bricks are from Custom Dioramics. The groundwork was painted and weathered with Poly- S acrylics, and finally, the figures were attached with straight pins and epoxy glue. This was an extremely easy conversion that took only about five nights to complete.

## Acknowledgments

My thanks to the US National Archives, who provided the Signal Corps photo of the BAR gunner.

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Edward Clinton Ezell, *Small Arms of the World*, Stackpole Books, 1977.
Robert Fisch, *Field Equipment of the Infantry 1914-1945*, Greenberg Publishing, 1989.
Philip Katcher and Jeffery Burn, *The US Army 1890-1920*, Osprey Publishing, 1990.
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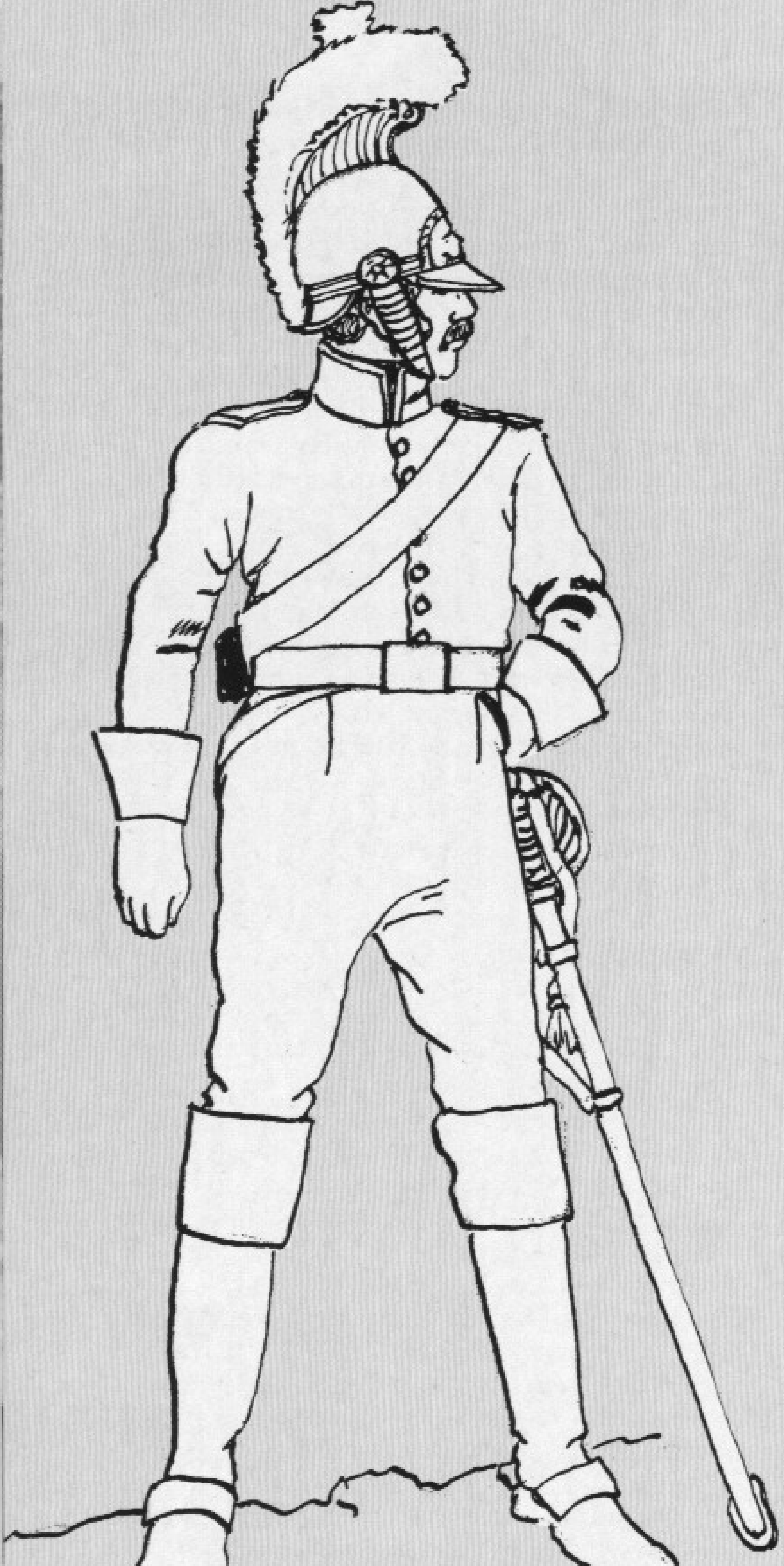
# Dutch-Belgian Karabiniers 815

**Dr Adrian Schmit describes and illustrates the uniforms worn at Waterloo**



*(Fig.1). 1815 pattern uniform. Could possibly have been worn at Waterloo by the 1st Regiment (pink facings - even though regulations stipulated red), but many authorities think it likely that it was not issued until after Waterloo.*

The newly formed state of the Netherlands sent its army into the field for the first time as allies to the Duke of Wellington in the Waterloo campaign of 1815. Many of its personnel were experienced campaigners, but their experience had mostly been gained fighting for the French, rather than against them!

It must also be admitted that many of them could not be said to embrace the Allied cause with much enthusiasm. Whereas in Germany there had been great popular uprising in many areas against French domination, in the Netherlands French rule appeared to be accepted and acceptable to many. With this background it is, perhaps, not surprising that the performance of the Netherlands army during the campaign has attracted a certain amount of criticism down the years.

Although the troops in the Netherlands army are usually divided into 'Dutch' and 'Belgian' types, they all belonged to the same organisation and command, and in fact those national terms are modern ones, the areas at the time being known as 'North Netherlands' (Holland) and 'South Netherlands' (Belgium).

The numbering of the different regiments of infantry and cavalry took no account of recruitment area, that is, the Belgian and Dutch units were not in separate numerical groupings. However, in some arms of the service, including the Karabiniers which are to be dealt with in this article, there were uniform differences between the troops of the two nations.

## Cavalry organisation

There were eight cavalry regiments in the Dutch-Belgian army at the time of Waterloo, and these were numbered successively irrespective of type. The 1st-3rd regiments were Karabiniers, of which the second was Belgian. The 4th (Dutch) and 5th (Belgian) regiments were light dragoons, and the remaining three regiments were Hussars. Of these, the 6th were Dutch, the 8th Belgian and the 7th colonial. Each regiment was to consist of four squadrons of 100 men each.

At Waterloo, the Karabiniers were grouped together as the Heavy Brigade of the Cavalry Division, under the command of Major General Jonkheer A.D. Trip, and appear to have been at more or less full strength, the 1st regiment having 446 men, the 2nd, 399 and the 3rd, 392.

## Uniforms

In 1815, new regulations had been brought in to prescribe the dress of the Karabinier regiments. The uniform, shown in Fig.1, was to be the same for both Dutch and Belgian regiments, the only difference being that each regiment had distinctive facings. The facing colours were set down as follows: 1st Regiment (Dutch): blue with red piping; 2nd Regiment (Belgian) red; 3rd Regiment (Dutch): yellow. All regiments were to wear the helmet which had only been used by the Belgian regiment after the previous (1814) regulations.

While it is not certain, most authorities tend to believe that this new uniform was not worn at Waterloo, and that the Karabiniers wore their old uniforms, of which there were distinctive Dutch and Belgian versions.

## Uniform of the 1st (Dutch) Regiment

The style of the Karabinier jacket of 1814 was the same for all regiments, but with different facing colours. The jacket was dark blue with facing coloured lapels, collar and cuffs (pink for the 1st regiment). The square-ended lapels could be worn either turned back to show the facing colour of buttoned across the chest, with just a line of piping of facing colour being left visible at the open edge. There were eight white metal buttons fastening each side of the lapels. The collar was open at the front to reveal a black stock and was unpiped (as were the lapels and cuffs).

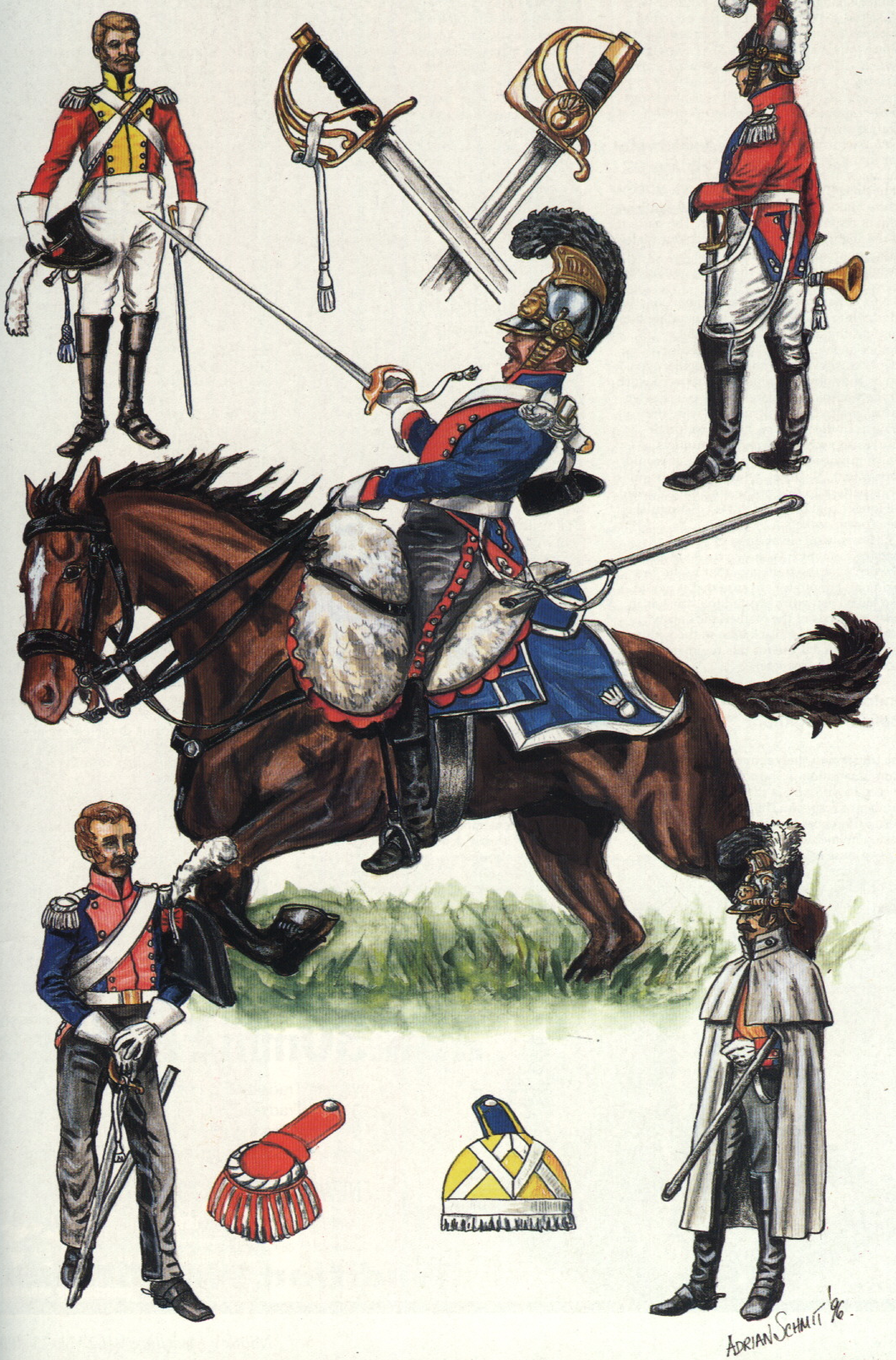
The cuffs were square with a three pointed dark blue cuff flap, which was piped white. Shoulder straps were dark blue with pink piping (although Smits shows white epaulettes). Coat tails were short or medium length with pink turn-backs and a three-pointed pocket which bore three buttons and was piped in pink. Some sources show white grenades on the turn-backs whereas others depict them as plain (see comment on 2nd Regiment, below). The variation in length of the coat tails referred to above is unexplained, although it is possible that the longer ones were worn by NCOs and officers.

Leg wear was one of several forms. For full dress, white breeches were worn with high cuffed boots. On campaign, grey overalls were worn, either inside the high boots, or over shorter boots. The overalls were buttoned down the side with white metal buttons and were either plain or with a facing colour stripe. Black leather re-enforcements strengthened the inside leg.

Head-dress for the Dutch regiments was a black bicorne with a white plume and cockade strap and an orange red bow cockade. The uniform was completed by white gauntlet gloves.

Equipment consisted of a straight bladed sword in a steel scabbard, hung from a white waist belt. This was fastened with a brass buckle at the front, which bore a

**Colour Plate:** *Top, left to right: Trumpeter, 3rd Regiment (after de Beaufort). Sabre hilt details - trooper (left) and officer (right). Trumpeter, 2nd Regiment (after contemporary water-colour and de Beaufort). Centre: Trooper, 2nd Regiment (after de Beaufort and contemporary water-colour). Bottom, left to right: NCO, 1st Regiment (after contemporary water-colour). NCO's epaulette, 2nd Regiment. Trumpeter's swallows nest, 3rd Regiment. Officer in cape, 2nd Regiment (after de Beaufort and Smits).*


ADRIAN SCHMIT '96.

grenade badge. Over the left shoulder were worn two (?) straps, one for the pouch and another for a carbine. Some sources show only a single shoulder belt. On campaign a British style water canteen was used, carried on a brown leather strap over the right shoulder. A rolled greatcoat was also worn on this shoulder on occasions, to protect against sword cuts.

Horse furniture appears to have been similar for all regiments and consisted of shabrack of half sheepskin and half dark blue cloth. The cloth was trimmed with white braid, and the sheepskin with cloth trim of regimental facing colour. The pattern of the shabrack is shown in the colour plate, although it appears that only the 2nd (Belgian) regiment had the white grenade in the corner.

NCO distinctions in this regiment consisted of white epaulettes, and it is possible that this was the only distinction. In the Netherlands infantry NCOs wore sleeve stripes or chevrons, and it is possible, even likely, that similar badges of rank were worn by the Karabiniers. Hans van Roo (see references), states that rank insignia were the same as in the infantry, but all pictorial sources show NCOs wearing gauntlets which might cover sleeve insignia. It would appear that the jacket, while generally similar in pattern to that of the rank and file, had the longer coat tails which also distinguished the officers' jackets.

Officers wore silver epaulettes and an orange sash which is shown by de Beaufort as worn over the right shoulder in the 2nd regiment, although I am sure that it would also have been worn around the waist as in other branches of the Netherlands army. Officers also had a black base to their plume.

Trumpeters' dress for this regiment is problematical, (see later).

## Uniform of the 2nd (Belgian) Regiment

The uniform of this regiment is shown in the main illustration in the colour plate. It will be seen to differ from the Dutch pattern in a number of respects. The most striking of these differences was the wearing of a steel, crested helmet with brass decorations. A white plume could be worn, but this seems to have been reserved for full dress.

The jacket was dark blue, but this time with red facings, but its pattern was exactly as for the 1st Regiment. The turn-backs are nearly always depicted with white grenade decorations, although this feature was not regulation and might have been a regimental distinction. Epaulettes were supposed to be red, but are depicted as white by de Beaufort, whose illustration was used as the basis for the colour plate. A contemporary water-colour, a copy of which is reproduced in van Roo's article, clearly shows white. There are numerous examples of troops in the Napoleonic period ignoring or modifying dress regulations for a variety of reasons, and it seems likely to me that this is what happened in this case.

NCO and officer distinctions were the same as for the 1st Regiment, except that NCO epaulettes had mixed red and white (silver?) fringes. It is likely that the brass decorations on the men's helmets would have been gilded for officers.

## Uniforms of the 3rd (Dutch) Regiment

The uniform of this Regiment followed the pattern of the 1st Regiment exactly, except that the pink facings were replaced by yellow. Smits shows white epaulettes for this regiment (as he also does for the 1st), but de Beaufort depicts blue shoulder straps with yellow piping.

## Uniforms of the Trumpeters

Here, confusion abounds. Let us start with the 1814 regulations, which stated that trumpeters were only to be distinguished by dark blue swallows nests with silver lacing. Not a single source has been found, however, which depicts this uniform. Possibly the nearest is the swallows nest epaulette shown by de Beaufort (see colour plate) the dark blue shoulder strap of which suggests that it was worn with the normal Karabinier jacket by the 3rd Regiment. No trumpeters of the 1st Regiment have been depicted or described in any of the sources researched, and there is not really enough evidence to hazard a guess at their dress.

Trumpeters of the second Regiment are depicted in a number of sources as wearing a helmet with a red plume and a white crest, together with a jacket in reversed colours, i.e. red with dark blue facings. Smits differs in showing the collar as blue (unpiped) rather than red, but the contemporary illustration mentioned above clearly depicts red piped blue. The same source also shows a trumpeter of the 3rd Regiment in a yellow stable dress, prompting van Roo to suggest that this regiment also wore reversed colours. However, de Beaufort shows a trumpeter in a red jacket with yellow facings and it is not inconceivable that this is correct even if a yellow stable jacket was worn.

## A Note on References

All sources consulted are secondary, which is unfortunate, but unavoidable, as primary sources on the Dutch army of this period seem lacking. The nearest to a primary source is the water-colour depicted in van Roo's article, but even that is a copy, the original having been destroyed during World War II. The main secondary sources consulted were as follows:

Knötel, R: *Uniformenkünde*
The eminent series of plates by Richard Knötel only depicts two Karabinier figures of 1815. One (Vol. IV, plate 13) shows the first regiment in the new uniform that it is generally agreed was unlikely to have been worn at Waterloo, while the other (Vol. IV, plate 37) an officer of the 2nd Regiment.

Lachouque, H: *Waterloo*
This work contains a series of colour illustrations by the military artist Baron Louis de Beaufort. An eminent uniform historian, his work must be taken seriously, but there is no text accompaniment to the illustrations, so the sources he has used are unknown.

Norman, C.A.: *The Dutch-Belgian Army at Waterloo* (in *Tradition* magazine nos. 46-47). Four Karabiniers are depicted in issue 47, with some useful comments.

Smits, F.J.H. Th.: *De Nederlandse troepen bij Waterloo 1815*
A plate produced by the Legermuseum in Delft which shows a total of 35 figures from the Dutch-Belgian army of 1815. Secondary sources produced in the country the army depicted came from tend to be more reliable than 'foreign' ones, especially if produced by museums who have an interest in historical accuracy. It is likely that the uniforms depicted are generally accurate, although there are occasional differences between this and other sources.

van Roo, H.: *Netherlands Uniforms at Waterloo* (in *Campaigns* magazine no. 17). The credential of the author of this article are unknown, but the article seems credible and uses contemporary or near contemporary plates.

von Pivka, O.: *Dutch-Belgian Troops of the Napoleonic Wars* (Osprey Men-at-Arms no. 98). O.K. as a general introduction, but lacking detail for a uniform work.

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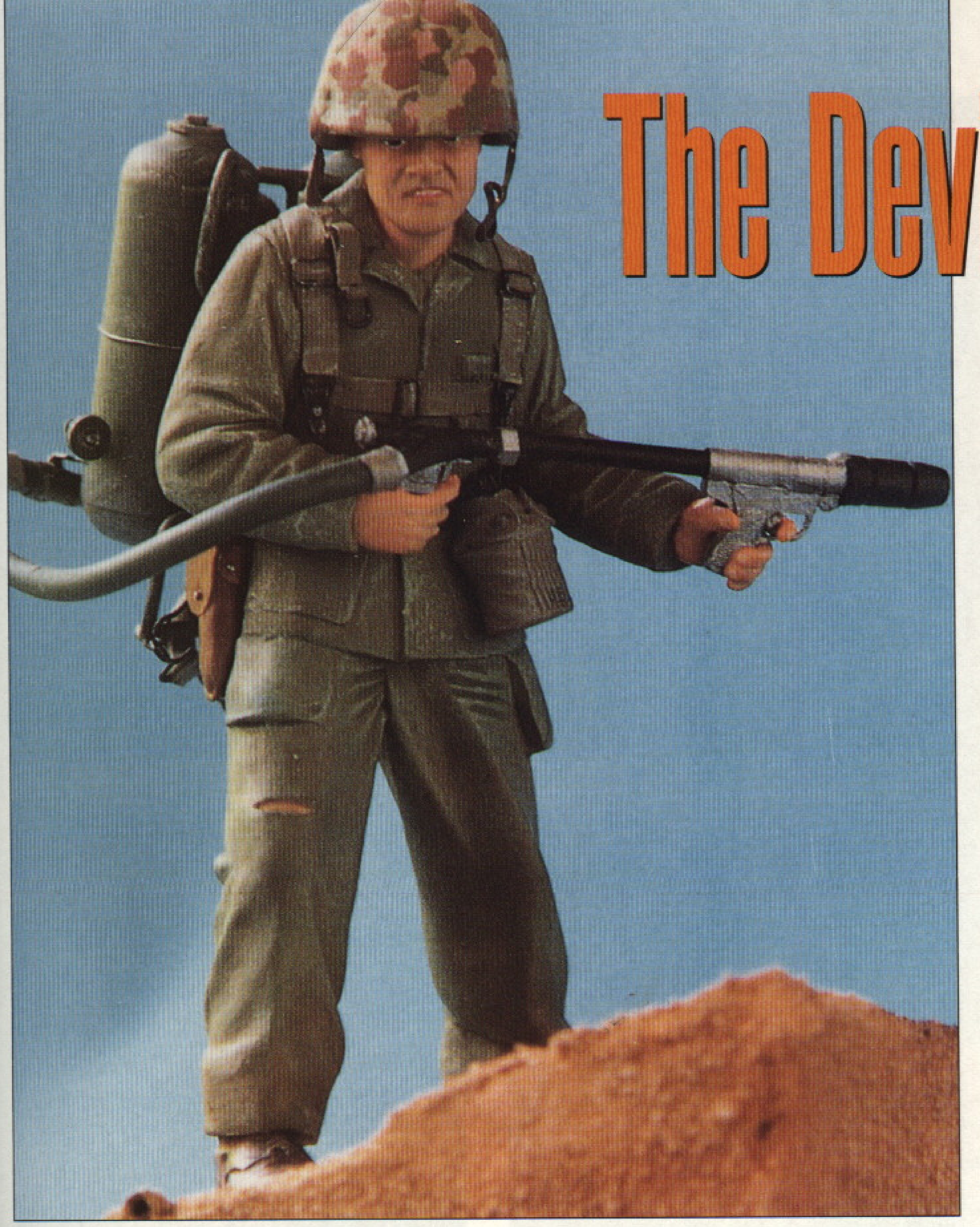
# The Devil's Breath



### John Boyton models a 120mm US Marine armed with a flame thrower from available kit parts

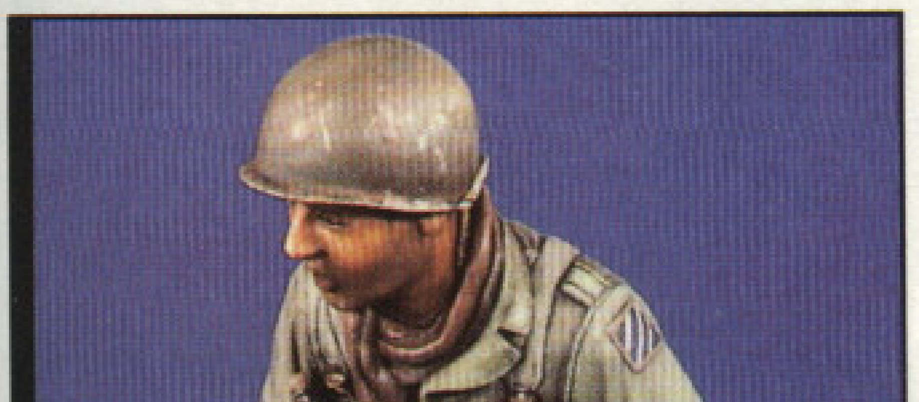
During the First World War the flame thrower, used by the Germans, became a weapon that all infantry men came to loathe and fear. However, due to its size it took a two-man team to carry it; one would carry the tank group and one would carry the gun group. It was quite common for snipers, and any soldiers within rifle range, to shoot these teams as a priority target because of the fear they brought with them.

The flame thrower's re-emergence during WWII was as a lighter and more compact form, but it did not really come into its own as a weapon, until something was needed to combat the Japanese in their bunkers in the Pacific theatre. It was found that no matter how many bombs or grenades were used there wasn't any real way to ensure the bunkers were empty. As the flame thrower could shoot liquid first, even around corners, and then be set alight, the area to be covered and devastated could be greater than any other weapon could accomplish. The 'fear factor' of projected fire was also a weapon in its own right.

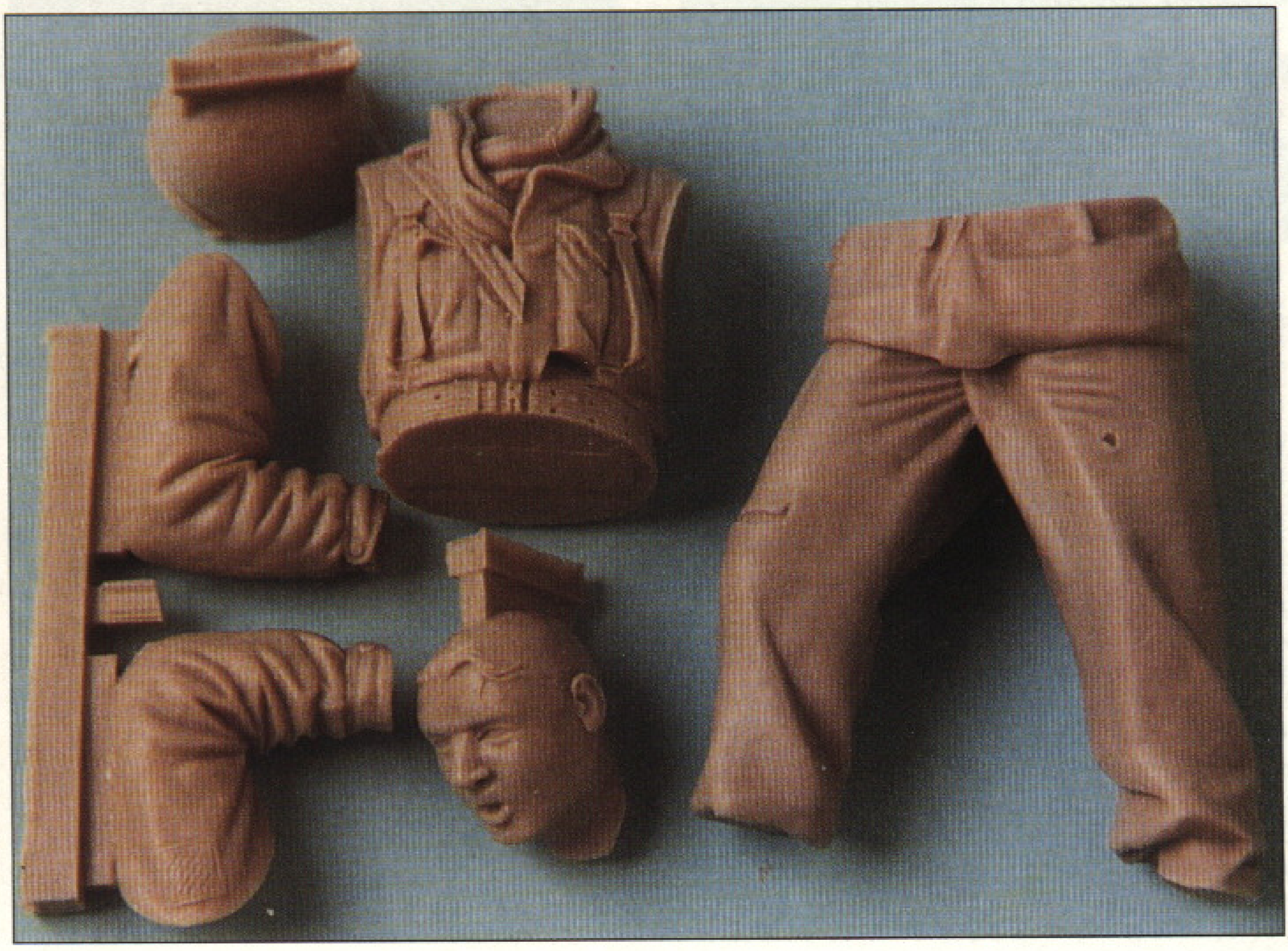
## The model

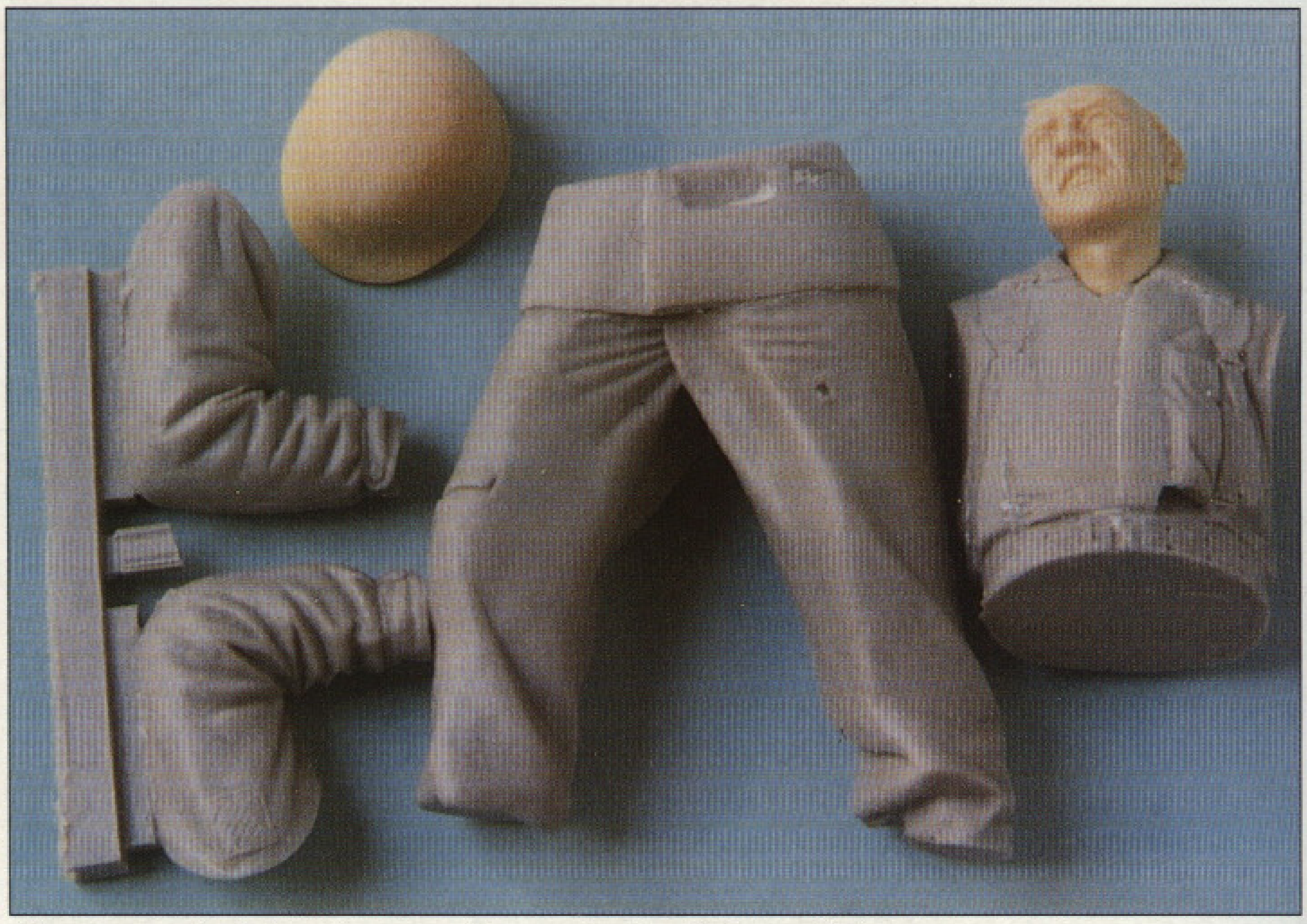
There are no 120mm figures available equipped with a flame thrower that I know of so I thought it would make a good subject for a conversion.

This figure is based on Verlinden Productions' No.1221 US Infantryman. The best reason for using this figure is that as he is crouched which gives emphasis to the weight of the flame thrower's tank group; it also has the arms in the desired pose.

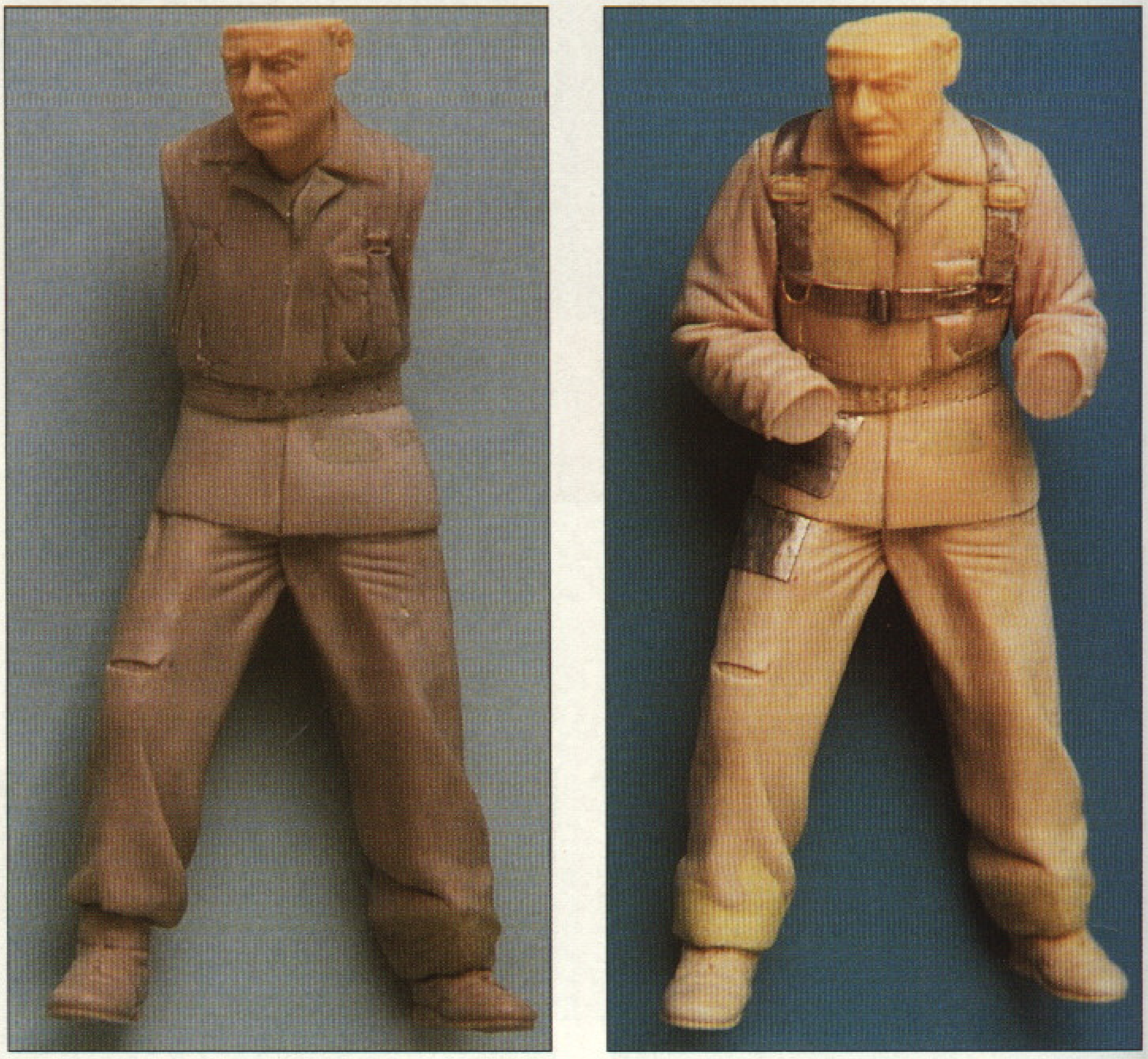


*ABOVE: The completed figure positioned on its scenic base. The sandy base with bamboo sticks is intended to project a Pacific environment.*
*LEFT: Boxtop and components of Verlinden Productions 120mm Super Scale US Infantry kit 1221.*





*Alterations to the body under way with a new head and helmet added.*



*ABOVE LEFT: Body halves joined and a new collar made up. ABOVE RIGHT: Pockets and straps added from thin lead foil.*

I had decided that to be more representative of a US Marine during the leap frogging of the Japanese occupied islands, that the M41 jacket would have to altered. This entailed cutting down the bottom of the jacket, removing the fullness of the skirt and removal of the right side pocket. As the figure also has all the straps moulded on, these had to be removed as well. Most of the work was made easy by using an industrial size knife , (Stanley) with the final smoothing down using wet and dry paper.

I replaced the head in the kit because once I removed the neck scarf, the head would not sit correctly. The chin strap is moulded on the helmet and as I wanted to add a helmet cover later on, this was also changed. The head is from the Warrior range, and very good it is too. The face is full of character and seems to have just the right amount of sneer. To ensure the new head fitted correctly I drilled out the neck and because of the long neck on the replacement, was able to push it into place to obtain a good fit.

The top and bottom halves of the body were glued together and the legs of both trouser's were lengthened to cover the boots using Milliput epoxy putty. The boot laces were added which came from an artificial Christmas tree and just the right size for my needs.

During this stage the collar of the new tunic was also added. The real intention of the conversion was to model the figure wearing the camouflaged herringbone twill uniform and that is why the pockets were added from lead sheet on the lower waist and trousers.

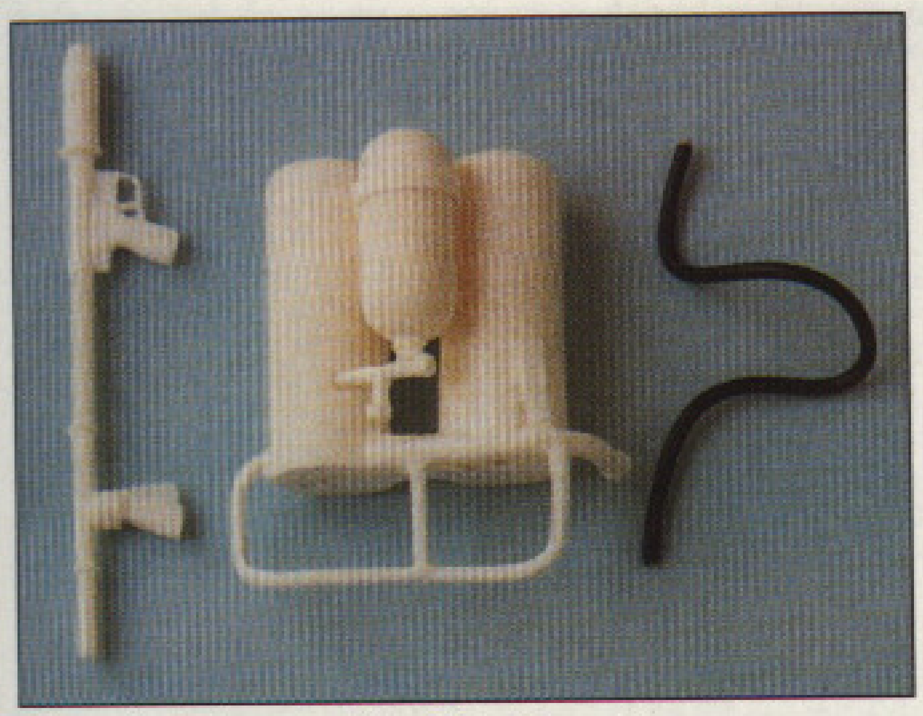
With the body made, the straps for the tank group were added next, but only as far as the chest, as the lower ones could not be added until the tanks were in place later on.

I had earlier phoned Russell Hadler of Barbarossa Books to ask if he could offer any advice on which publication would be of use to me and he said he had the perfect book. It cost only three pounds, but it is excellent and appropriately titled, The Flame Thrower. Armed with this book it became quite clear what would be needed to make the M2A1 flame-thrower.

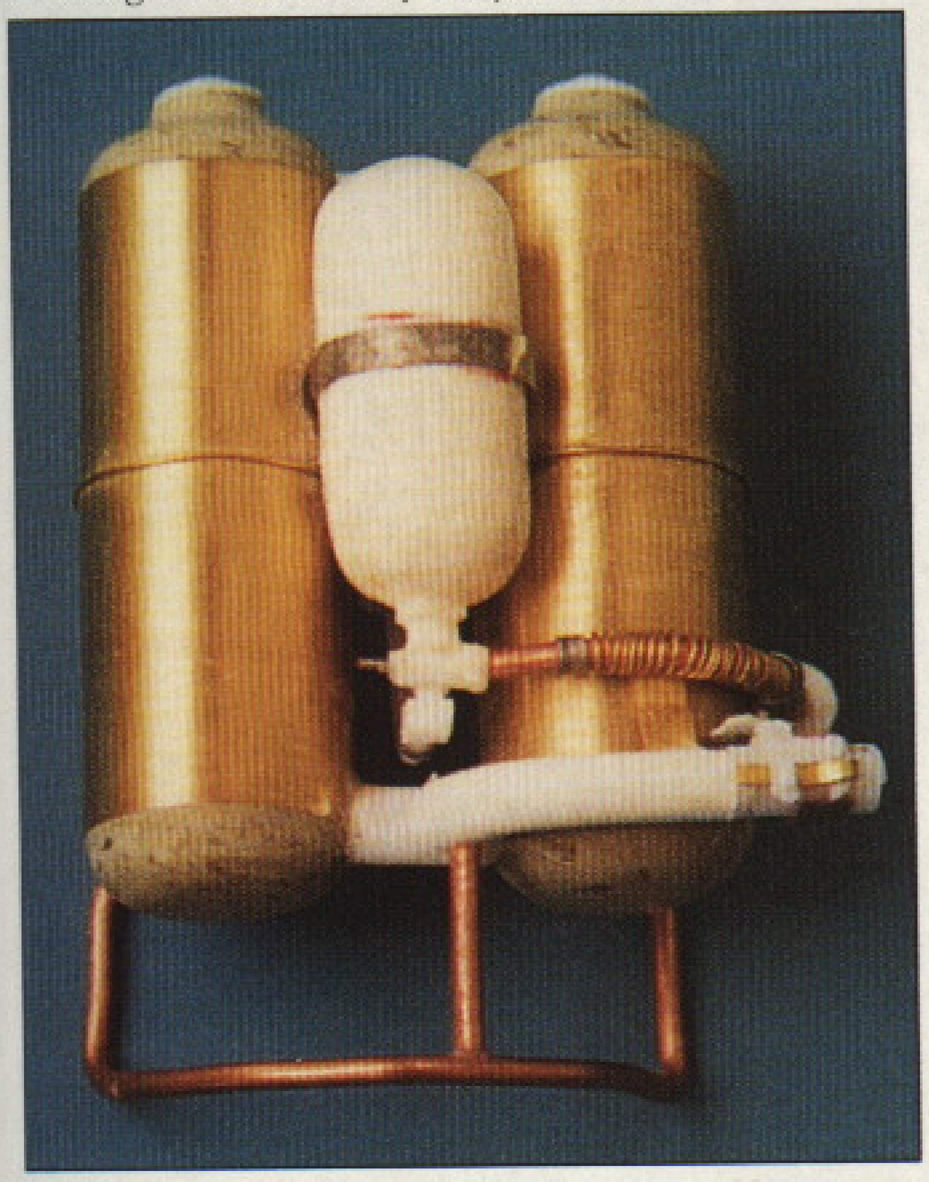
## The flame thrower

The resin kit of the flame thrower was obtained from Model Search International, but on receipt was found to be terrible. This 1:15 kit is of the M2 version, and made by Michael McCauley's MAX TRAX company, which considering that they make 1:16 kits of Shermans, an Elephant and a 1:15 scale SdKfz 251 half track is very surprising. I have seen photos of these vehicles and they look excellent, so why this is so bad, I do not know.

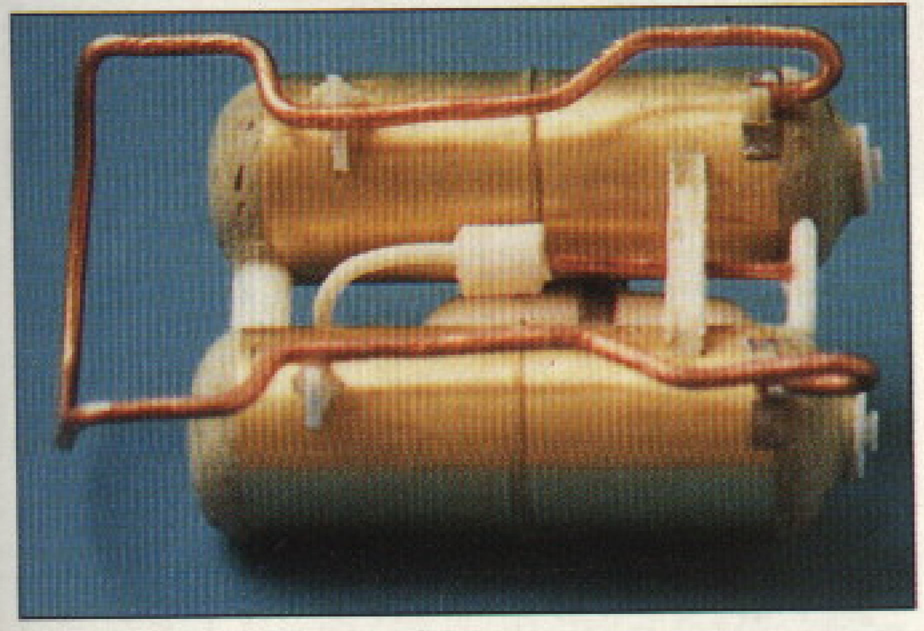
After a good look at the M2 I decided that the only parts I could use would be the pistol

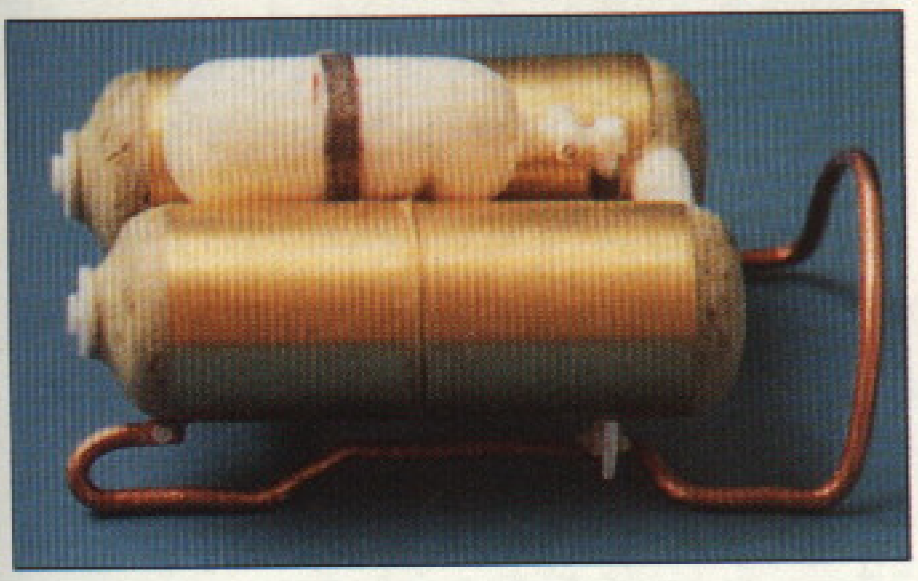


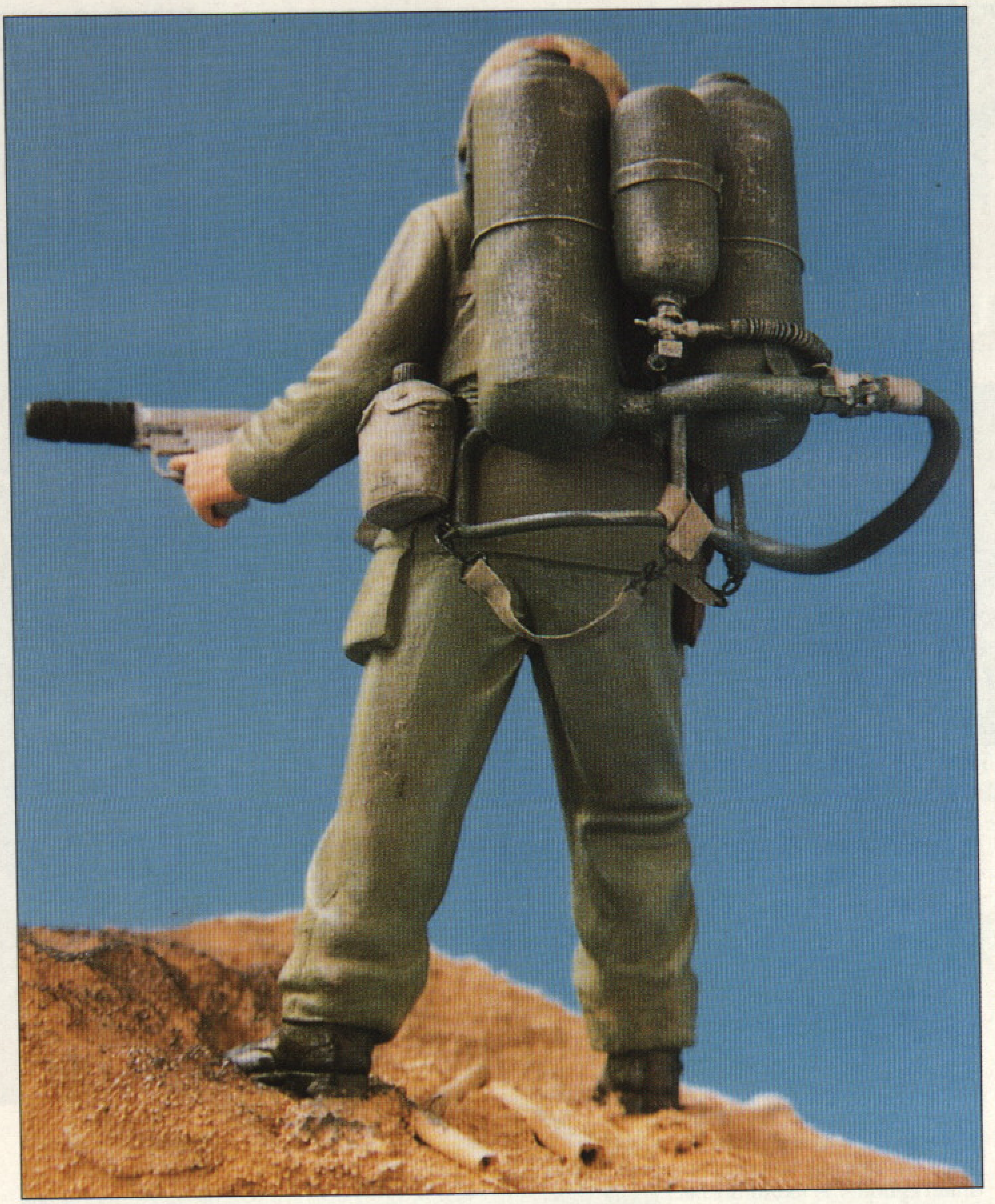
*The original resin kit of the flame thrower.*



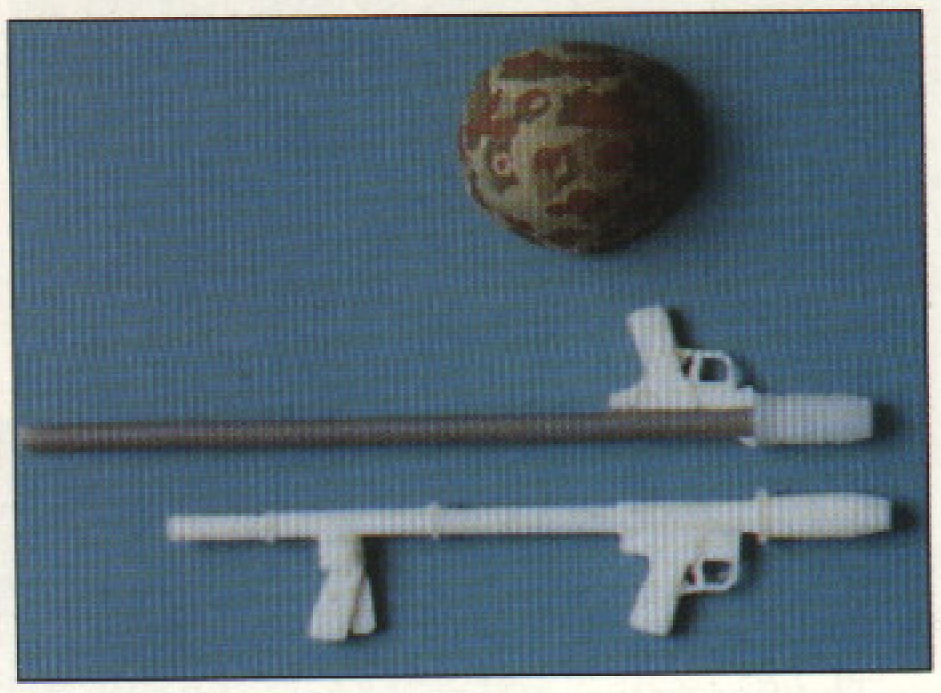
*The remodelled flamethrower cylinders and harness.*

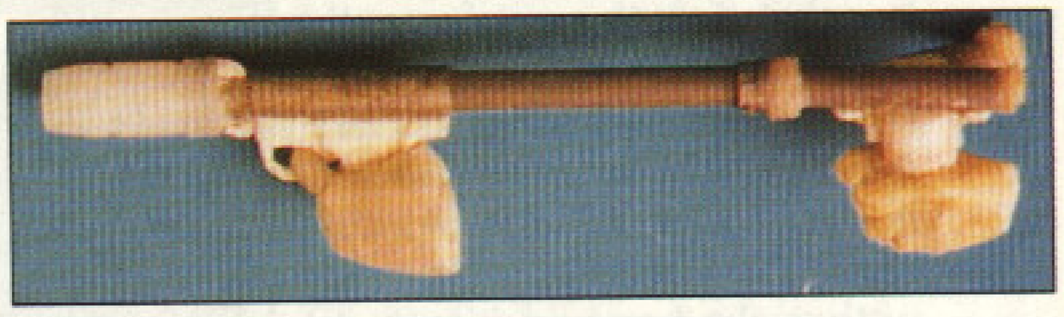




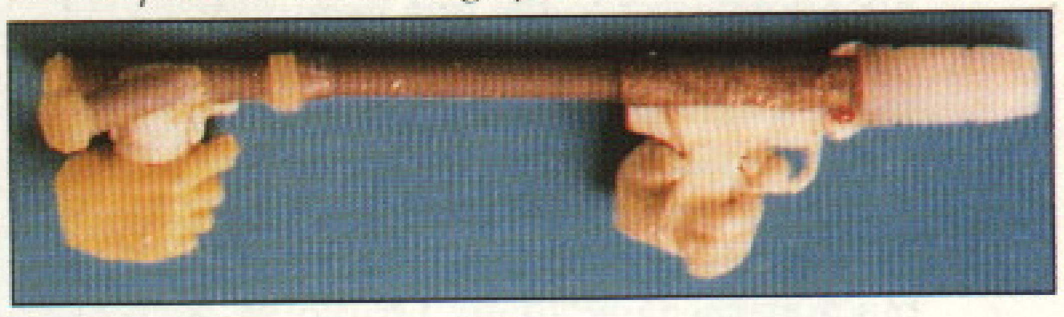


*New gun group under construction. Helmet with camouflage cover is at the side.*





*Hands positioned on the grips.*



grips and the small compressed air cylinder. One of, the advantages of having the kit is that I was able to make new fuel tanks by using the kit parts as a guide.

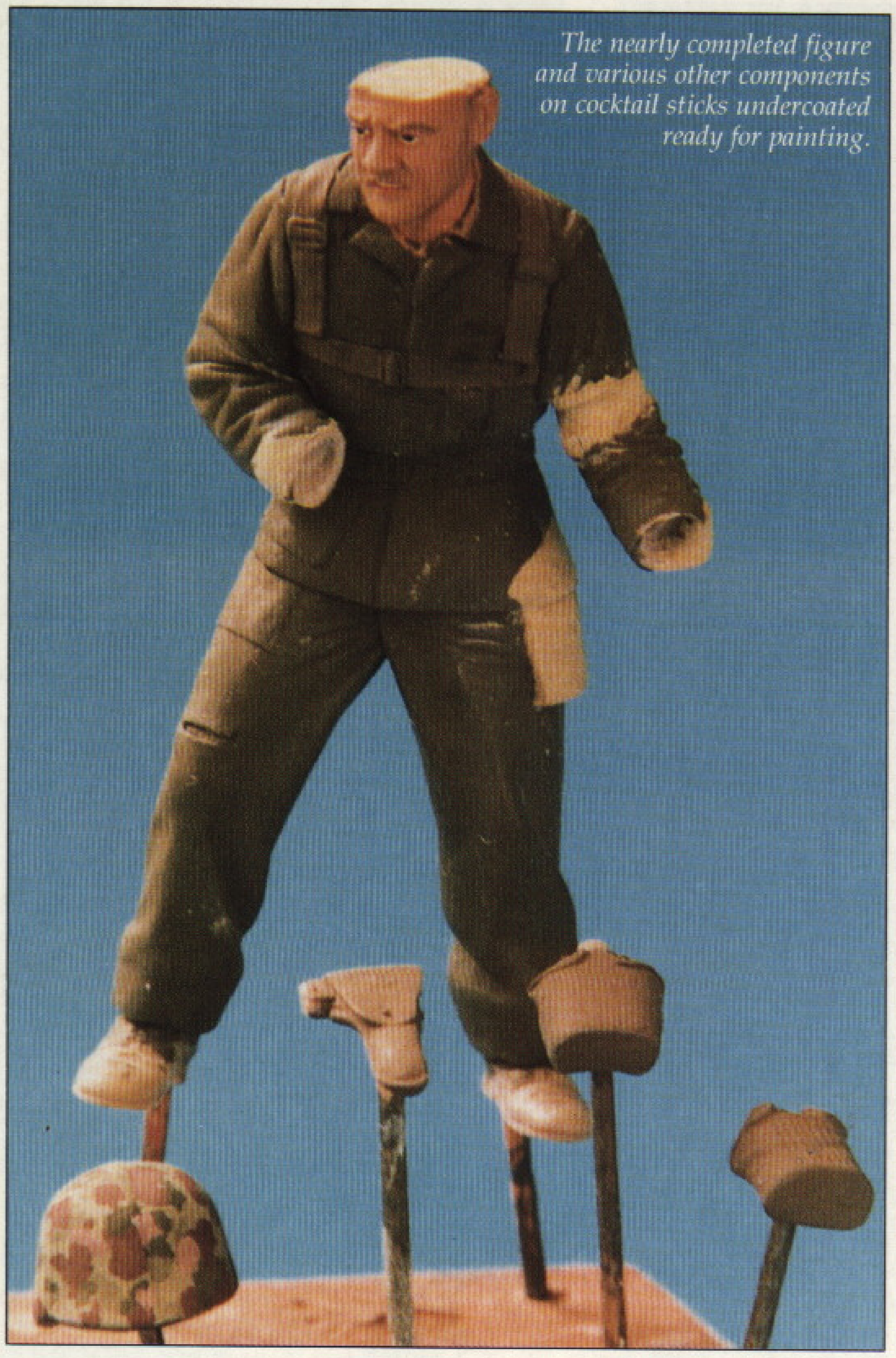
The first stage of the building was to make the fuel tanks and as I could not find any plastic tube big enough I used brass instead. The two tubes were cut to length and Milliput was added to the ends. The tubes were then mounted into a drill and as it spun at slow speed the ends were shaped. Once dry the filler plugs were added using plastic card.

Before I could go any further the metal frame had to be made and this was a real pain to get right. I lost count of the times that I had to bend it to get the right shape, but in the end it worked out well. With the metal frame made the two fuel cylinders could be added, but to make life easier I decided to add the small cylinder first as this would give stability to the pack. The original strap on the small cylinder was removed and this was glued to the large cylinders. To ensure the three cylinders were correct not only to themselves, but to the back piece, I devised a method of construction.

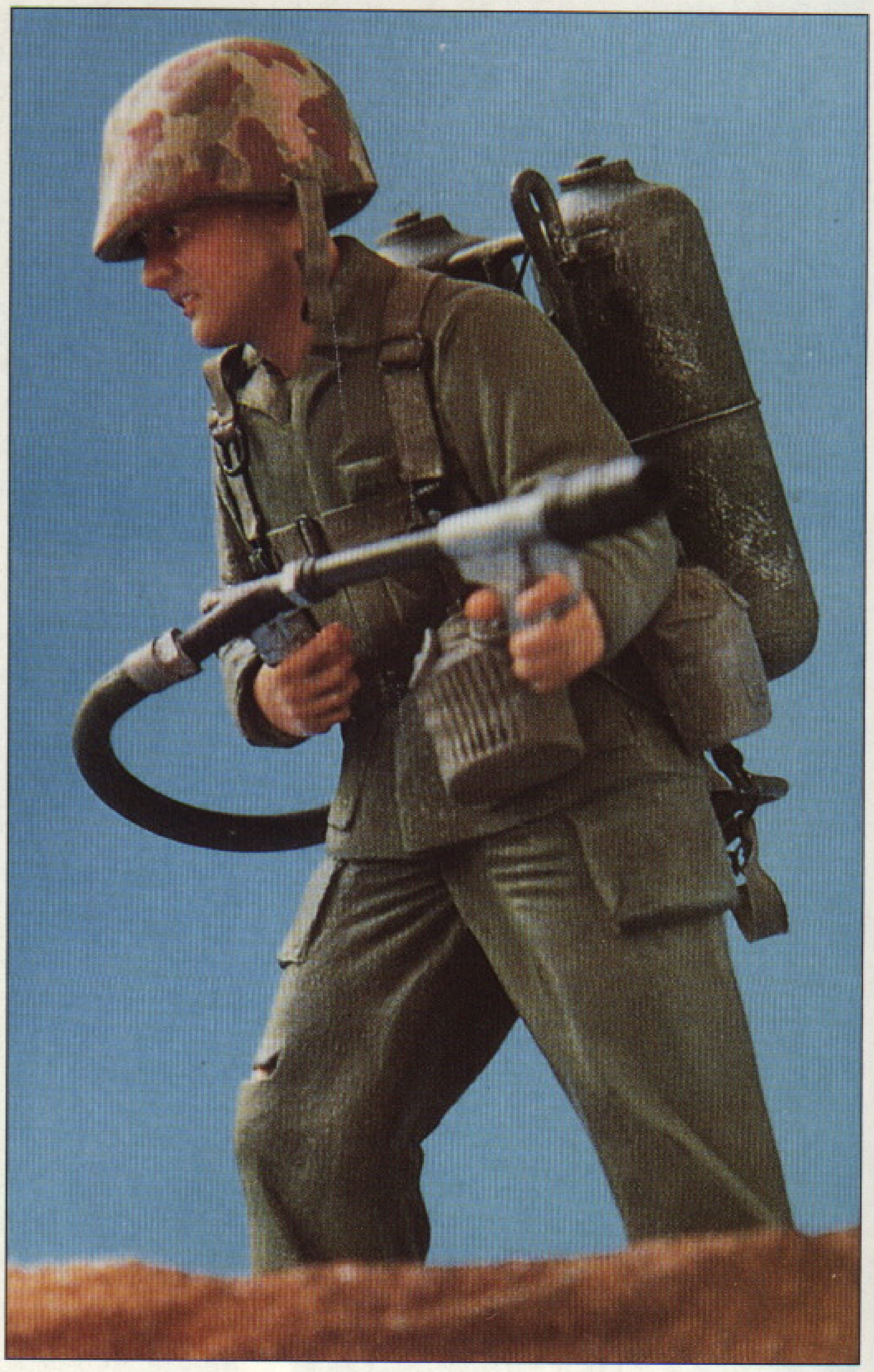
With the metal frame on a flat surface, the two big cylinders were put into position. Blu Tack was used to elevate the bottoms and to keep them the correct distance apart. The small cylinder was added next, once all cylinders were correct the lower wedges were cut and glued into place.

As you can imagine, even with all of the pieces in position they were not very stable and at least a dozen times as I was adding the other pieces to the frame, at least one of the joints would break or come adrift. In fact, it became a constant battle to keep all the pieces together, that at one stage I despaired of ever getting it finished. It did not help when I put it on some card to take some 'in-progress photos' and the wind caught the back drop and it fell to the floor spilling pieces everywhere. This is why in some of the early photos the positions are different to the later ones.

In photographs the two big cylinders have a join ring around them so to duplicate this, fine wire was added. The rest of the detailing was made with constant references to the book. As I could not be sure if the inner parts of the tank group would be visible, these



*The nearly completed figure and various other components on cocktail sticks undercoated ready for painting.*



were detailed as well. What I had not realised was that the compressed air from the small cylinder is fed to the back of the pack, it is then fed, through a small tube to a pressure regulator, which then goes to the top of the big cylinders. Once it reaches the top it is split and the air then pushes down the fuel in both cylinders. As the liquid fuel is pushed down it flows into a connector at the bottom of the cylinders which is then forced up the hose connector to the gun group.

The gun group left a lot to be desired so I made a new one. The only pieces that I kept were the pistol grips, which were cut from a spare gun group that Geoff Harvey of Model Search had sent me.Due to the trouble I had building the tank group, I had overlooked one important fact, was the gun group to scale and as 'big' as the original weapon?. No! Was the answer. In fact, the new gun was longer than the original and even though I had started to paint the figure, I had no choice but to cut the arms and repetition them. To make this task easier I drilled out the arms and inserted brass rod, so as I could swivel them into the correct position and I encountered little trouble with this. To make sure that the arms were in the correct position I glued two new hands from the spares box onto the front trigger grip and rear valve grip.

## Painting begins

Once the glue had set I started to paint the camouflage pattern. After three hours it dawned on me that no matter how I tried I just could not get the pattern correct. On the suit the pattern is very defined and repeats itself quite quickly and no matter how I tried I couldn't get it correct. The only option I had was to model the trousers as M1943 fatigues and the top as the M1941 jacket. The top did not need any extra work, but the trousers needed the bellows pockets to be added, for which I used Milliput.

At this time I also made the carrier pack that the tank group is suspended from. Sounds fancy, but it is only a webbing piece that sat on the back of the wearer so that the metal of the tank group would not rub on his body. For this I used Milliput and once the correct shape was obtained I pushed some surgical gauze into the Milliput to give it a fabric look. To replicate the rivets that the laces are threaded through the end of a projecting pen was pushed into the wet Milliput.

The figure was painted again, then the tank group. Once these were dry the two were glued together. With the tanks in position I was able to make the lower straps. In fact it took nearly a whole day to make all the clips and buckles that were needed. As I had glued both hands to the front and rear valve group earlier I knew that the hands would fit correctly so these were painted separately. The two water bottles and the pistol holster were painted next and these were added once I had weathered the figure.

For the tunic and trousers Humbrol French Artillery Green No.179 was used. To give them a faded look some white was added and dry-brushed into the tops of the creases.

At this stage I fitted the hose from the tank group to the gun group using the sleeve insulation from an electrical cable.

I had made a helmet cover earlier and this was painted in camouflage colours which, due to its size, was not too difficult. This was added after I had painted the face with enamels.

## Scenic base

The base is a piece of polystyrene covered in sand and then painted in sand colours. The bamboo sticks are some reeds that I found during a trip around the local river's edge.

It certainly made a change to make an American figure, but brought home the complexity of the American camouflage pattern, perhaps! I will make another one later, or perhaps I won't! One thing is for certain , this turned out nearly as well as I visualised and that is all we modellers strive for, isn't it?

## Availability

Verlinden Productions via Historex Agents, Wellington House, 157 Snargate Street, Dover, Kent CT17 9BZ.
Model Search International, Hill House, Top road, Slindon, Arundel, West Sussex BN18 0RP.

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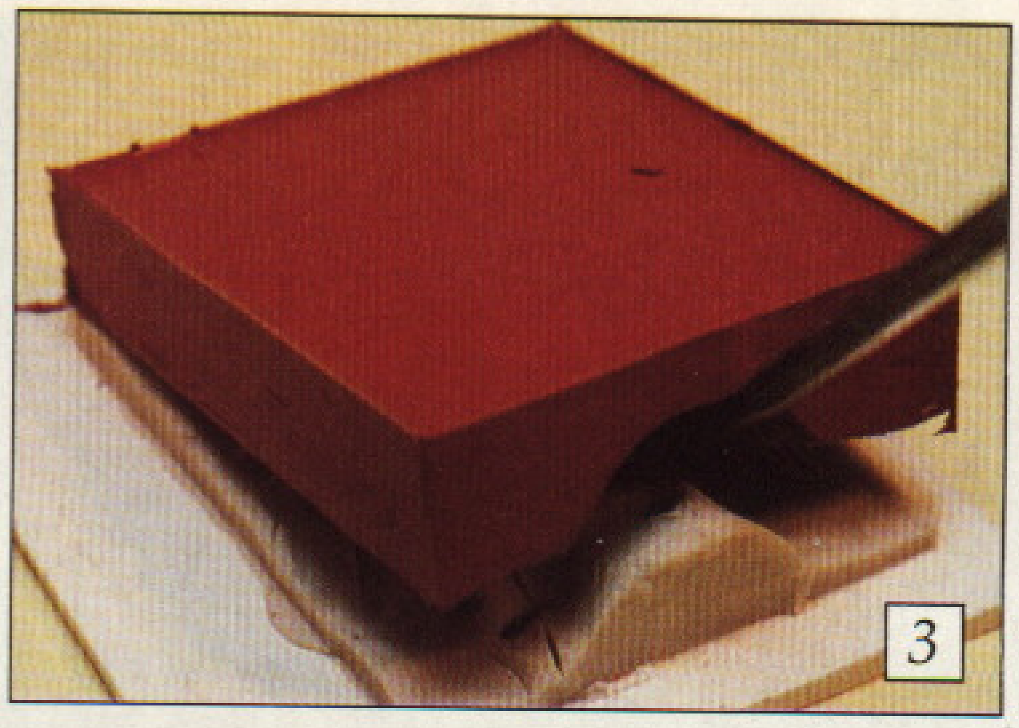
*Militaria Magazine* No.24.
*World War Infantry in Colour Photos* Europa Militaria No.2 ISBN 1-872004-15-6. ■

# Cast it!

**The second and concluding article by David Love on how to make white metal castings from silicone rubber moulds at home**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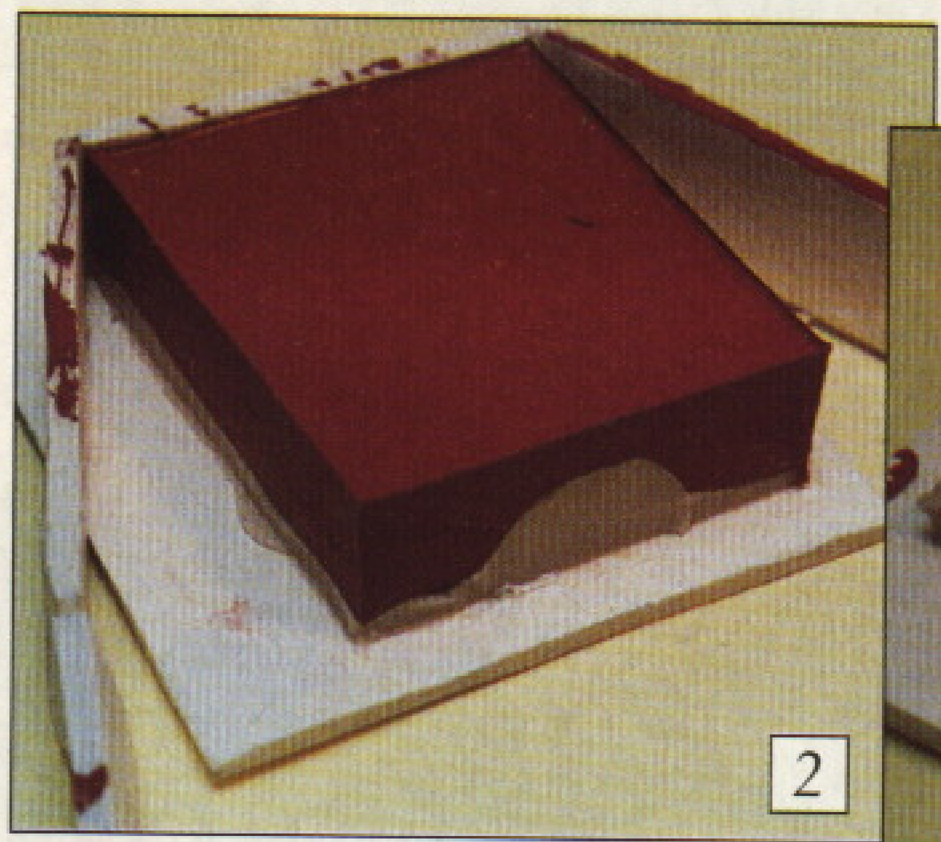
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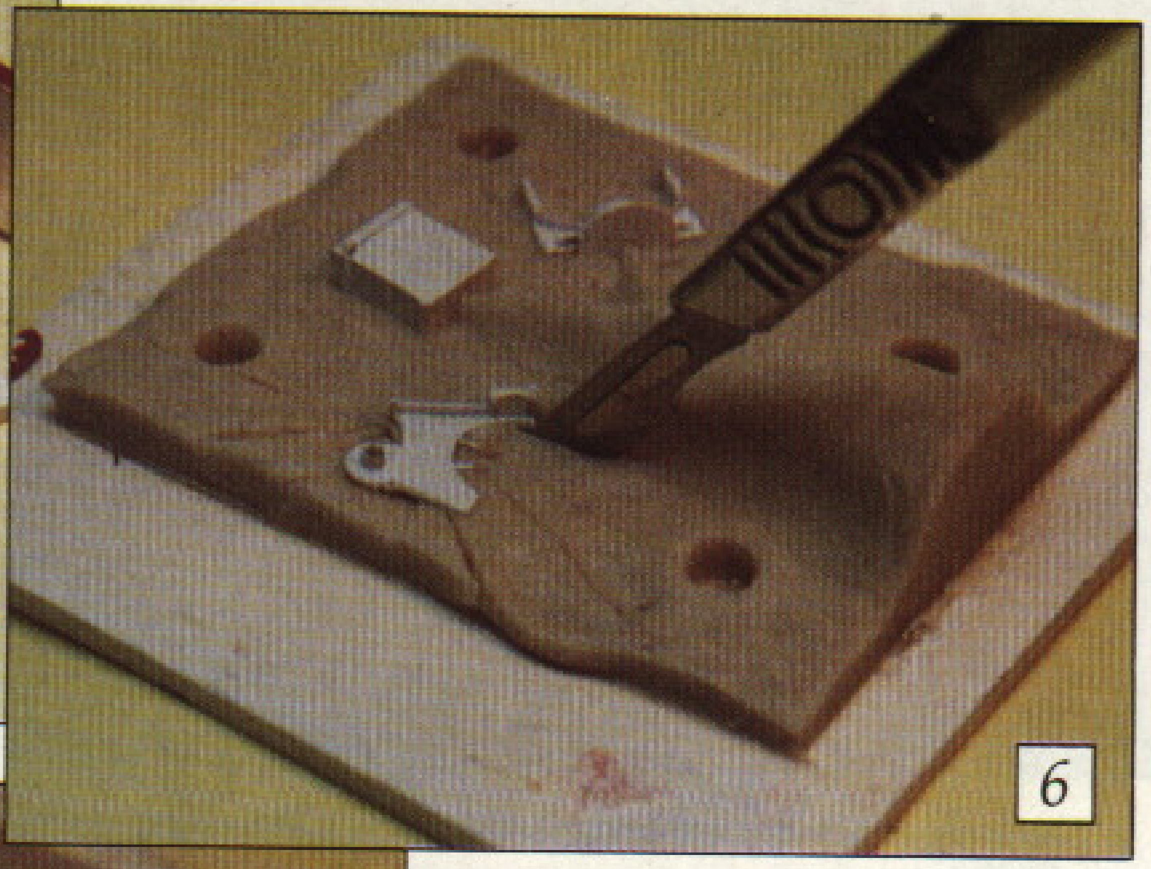
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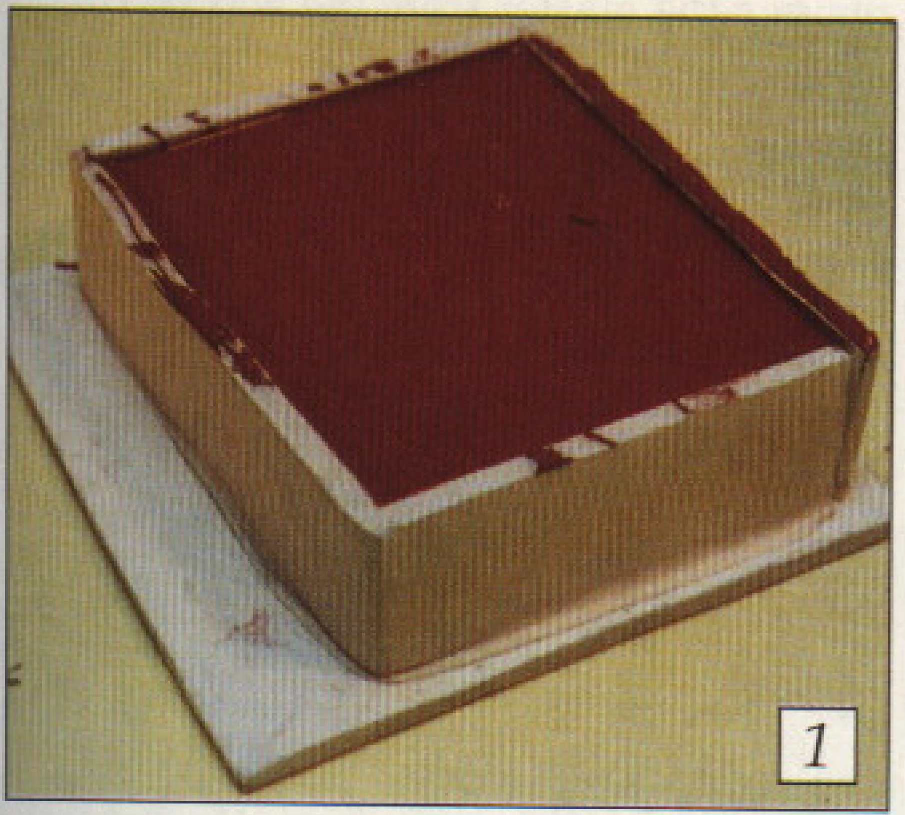
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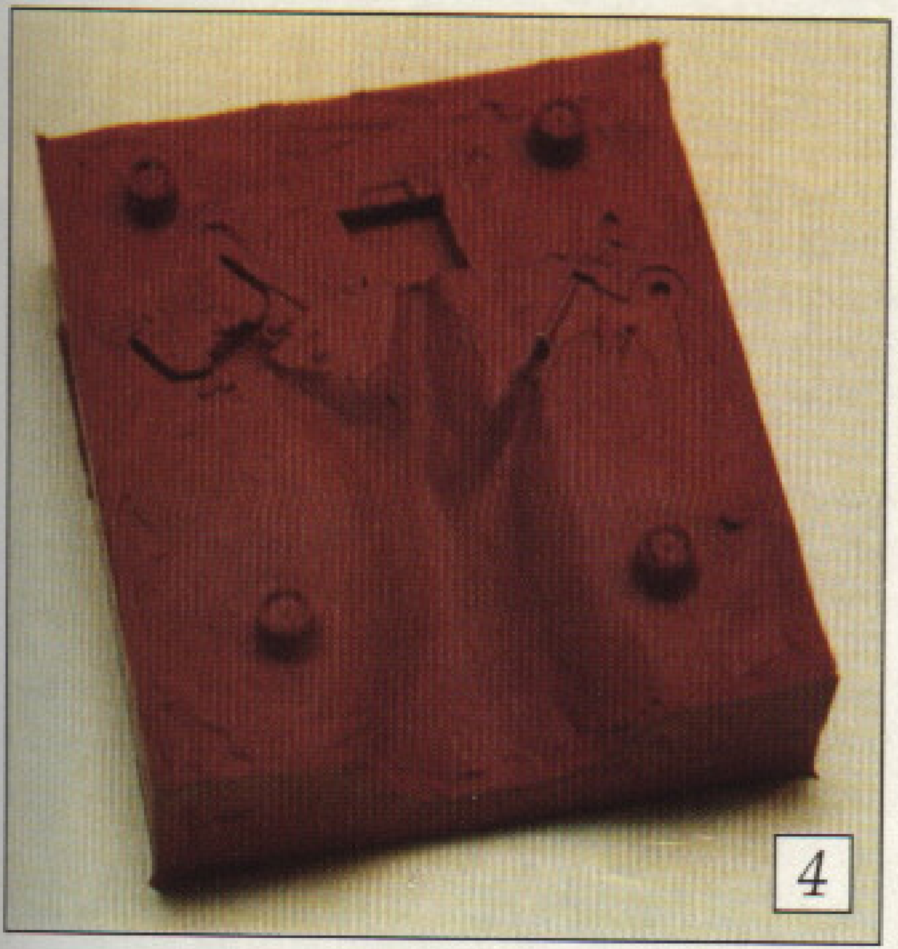
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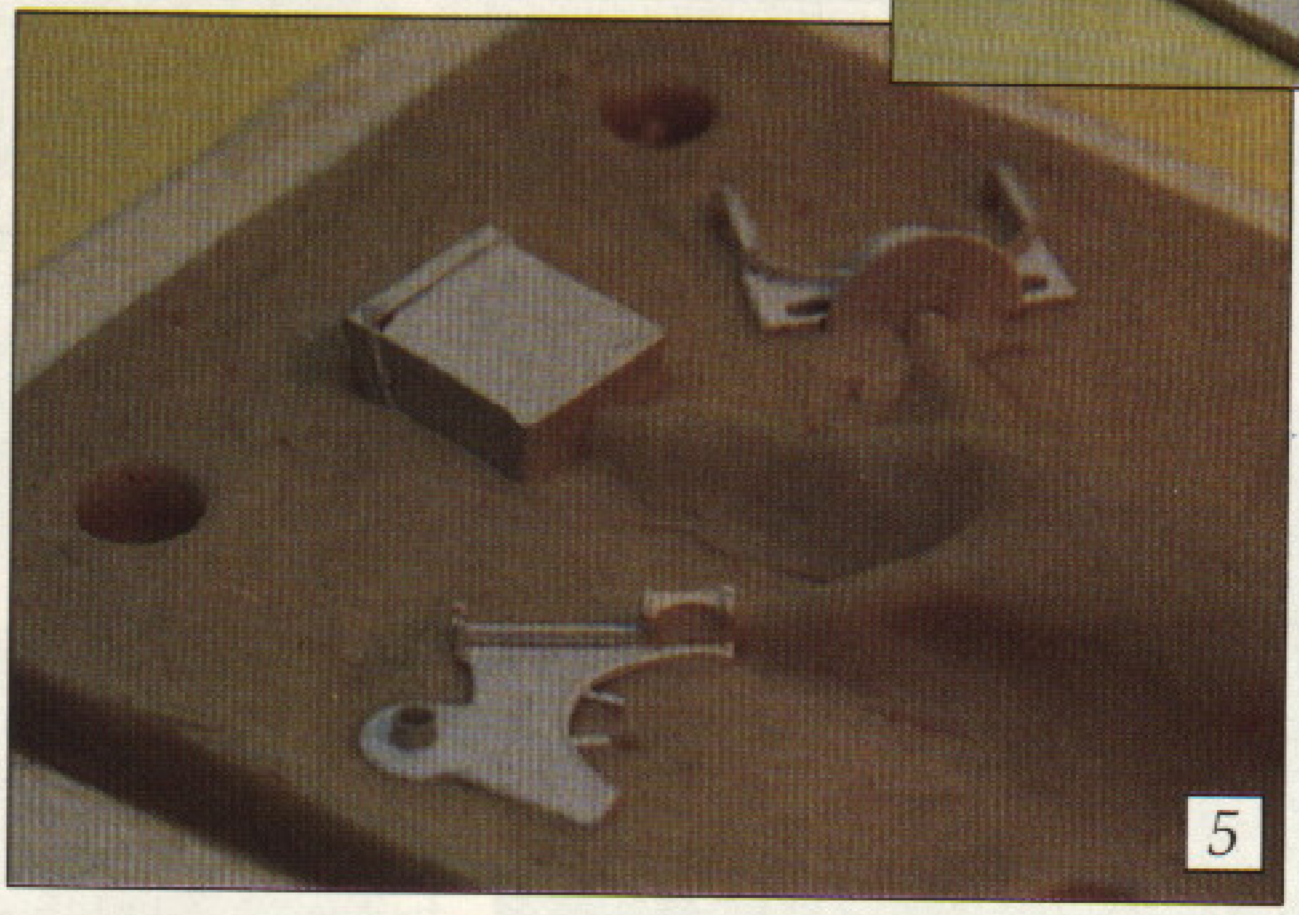
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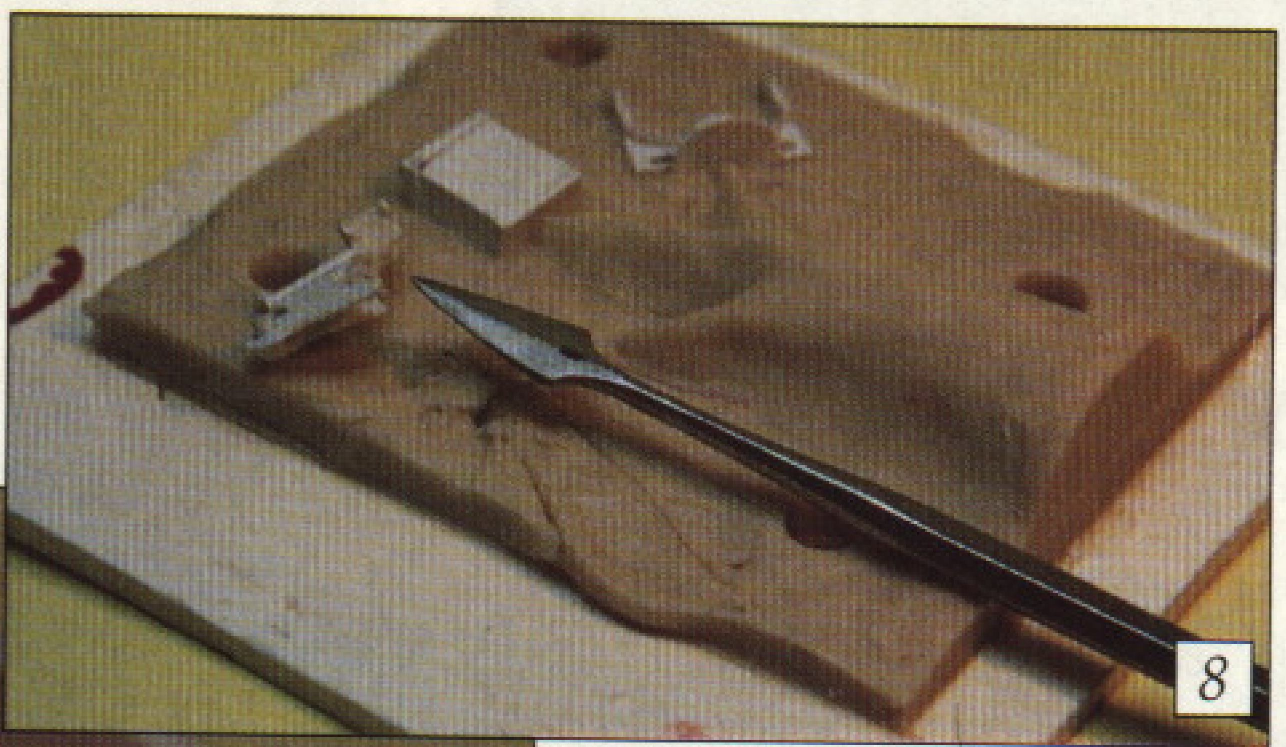
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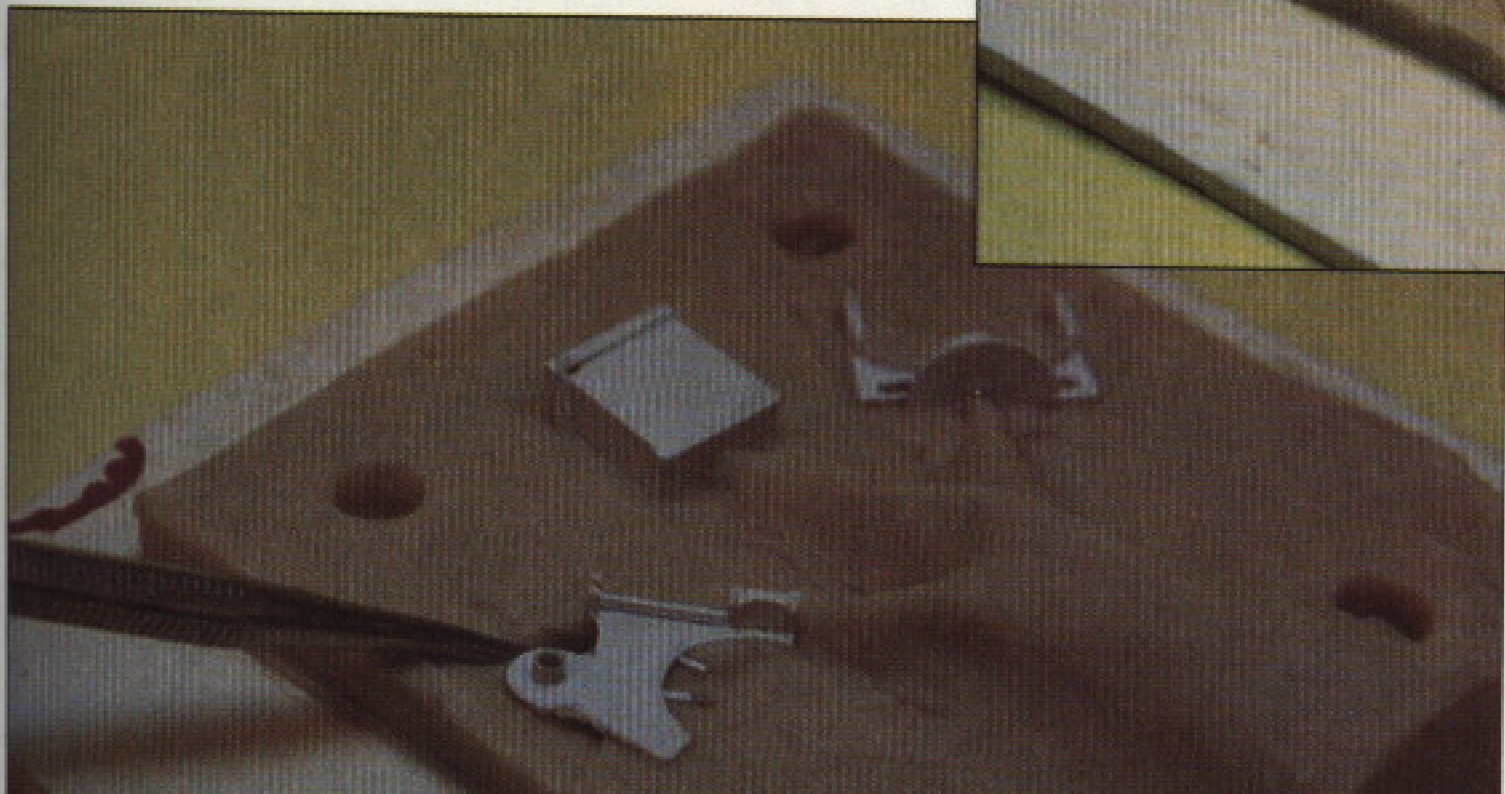
## Opening the first stage

**(Photo 1).** Having left all the first stage moulds 'vulcanising' for at least 24 hours, the rubber surface should feel hard and resilient when it is pressed with a finger. If any soft spots are felt then it is possible that the process is not quite complete and it is best to leave alone for a few more hours. It is possible to place the mould against a heating radiator to decrease the cure time, but this should be done with care. **(Photo 2).** Once you are happy that the mould has the feel of a hard rubber ball the box sides can be removed; again feel the rubber sides that are now exposed; if they can be depressed and not spring back to the original position, put them to one side for a little while longer. It is to be expected that the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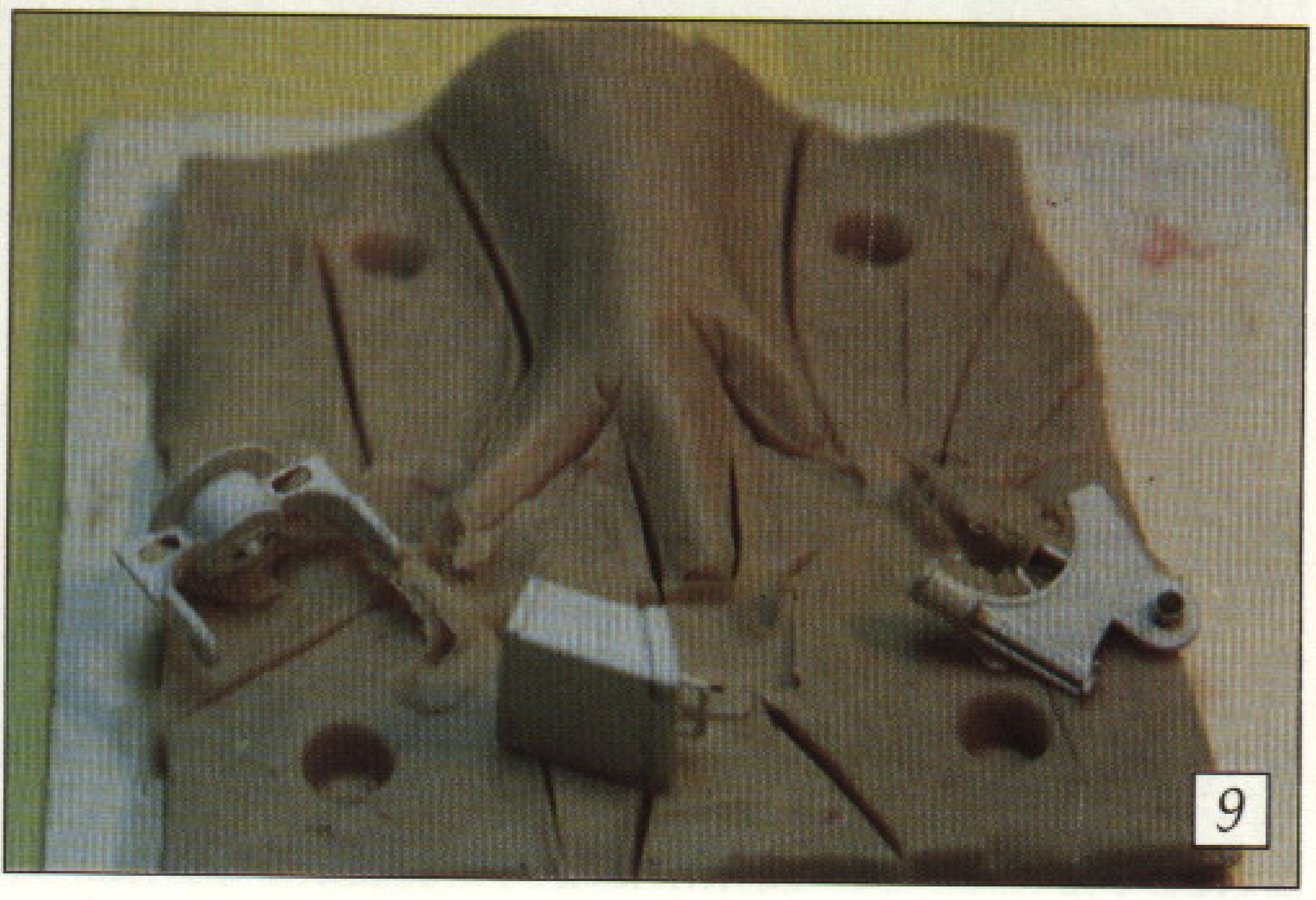
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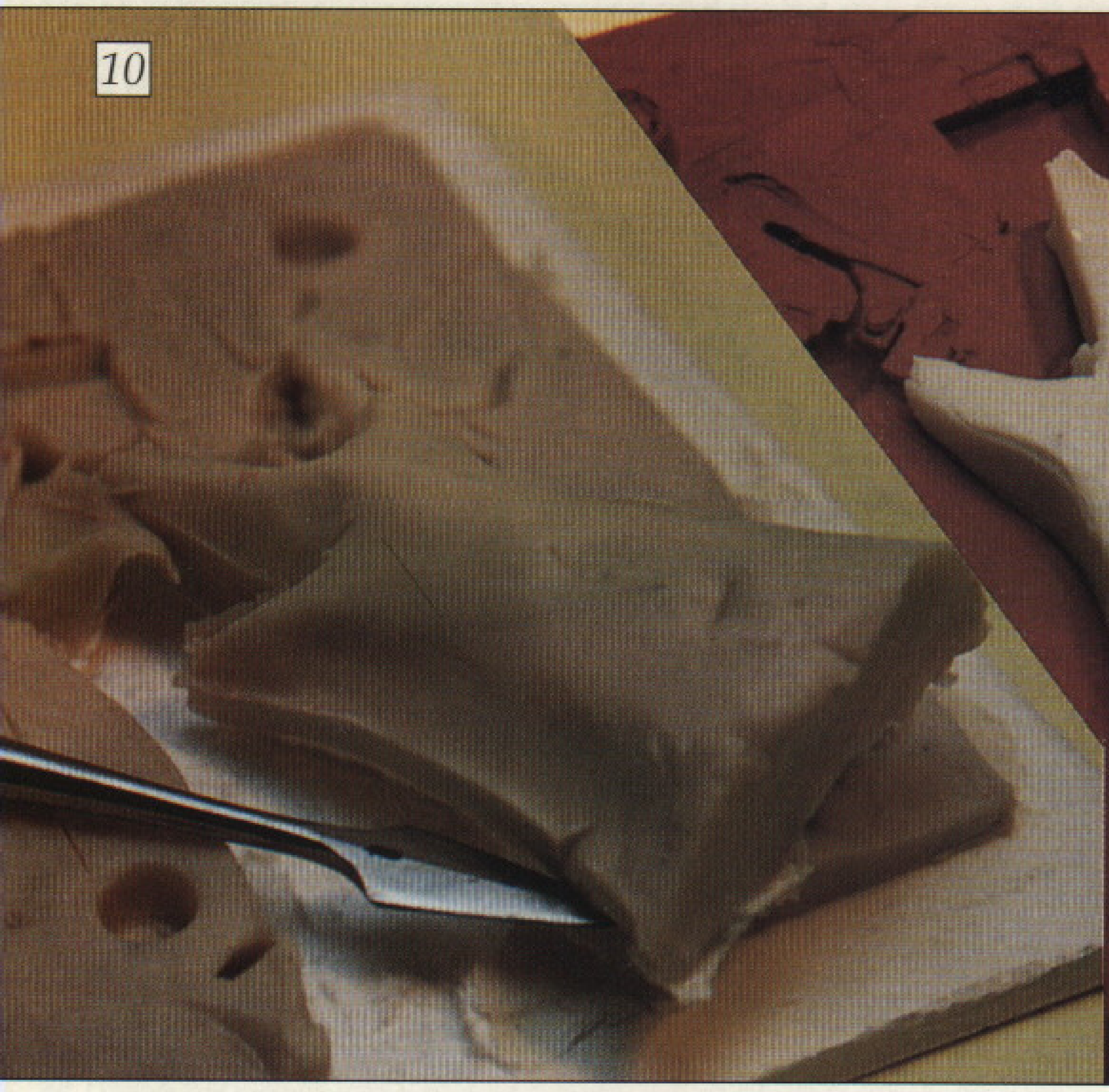
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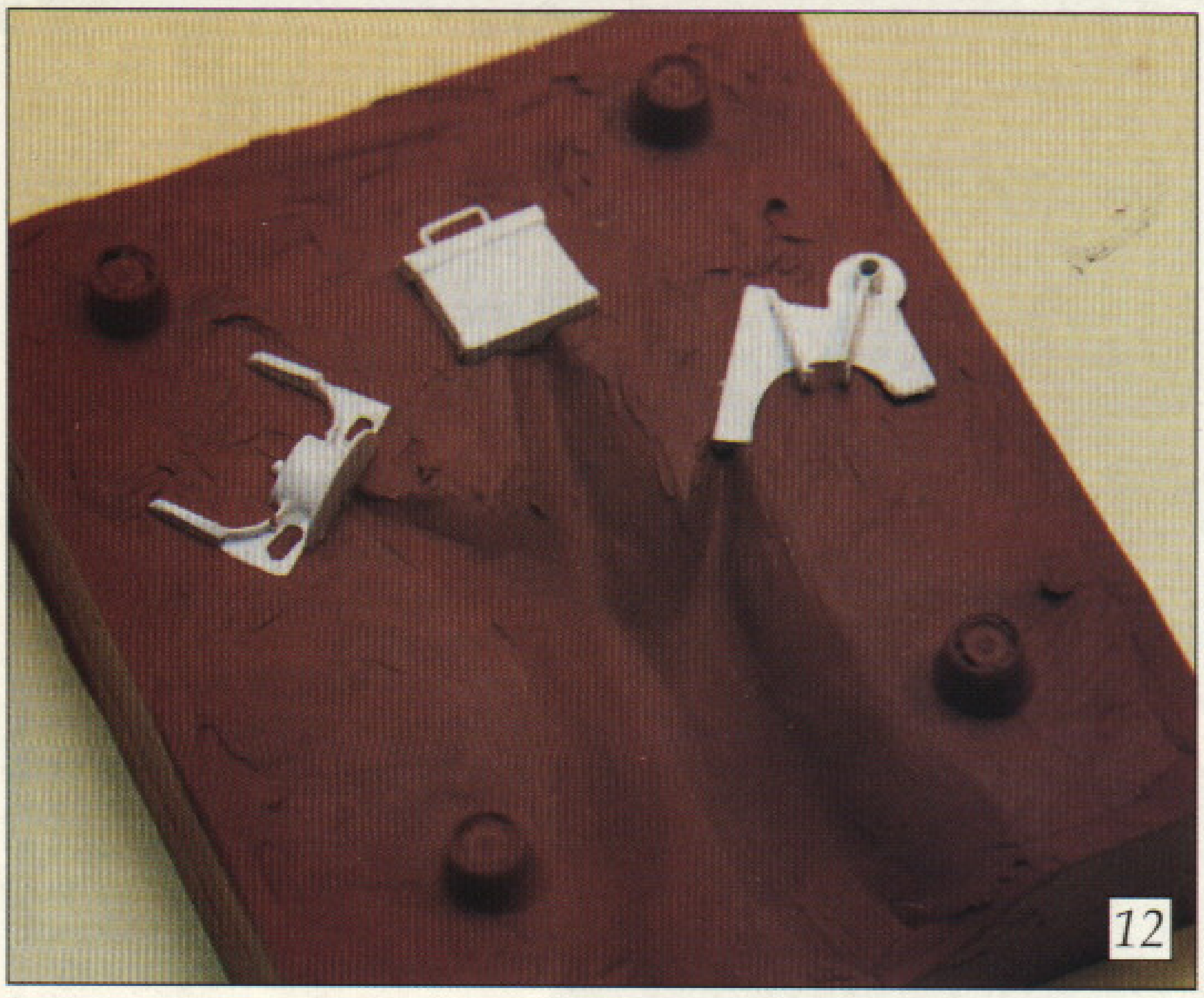
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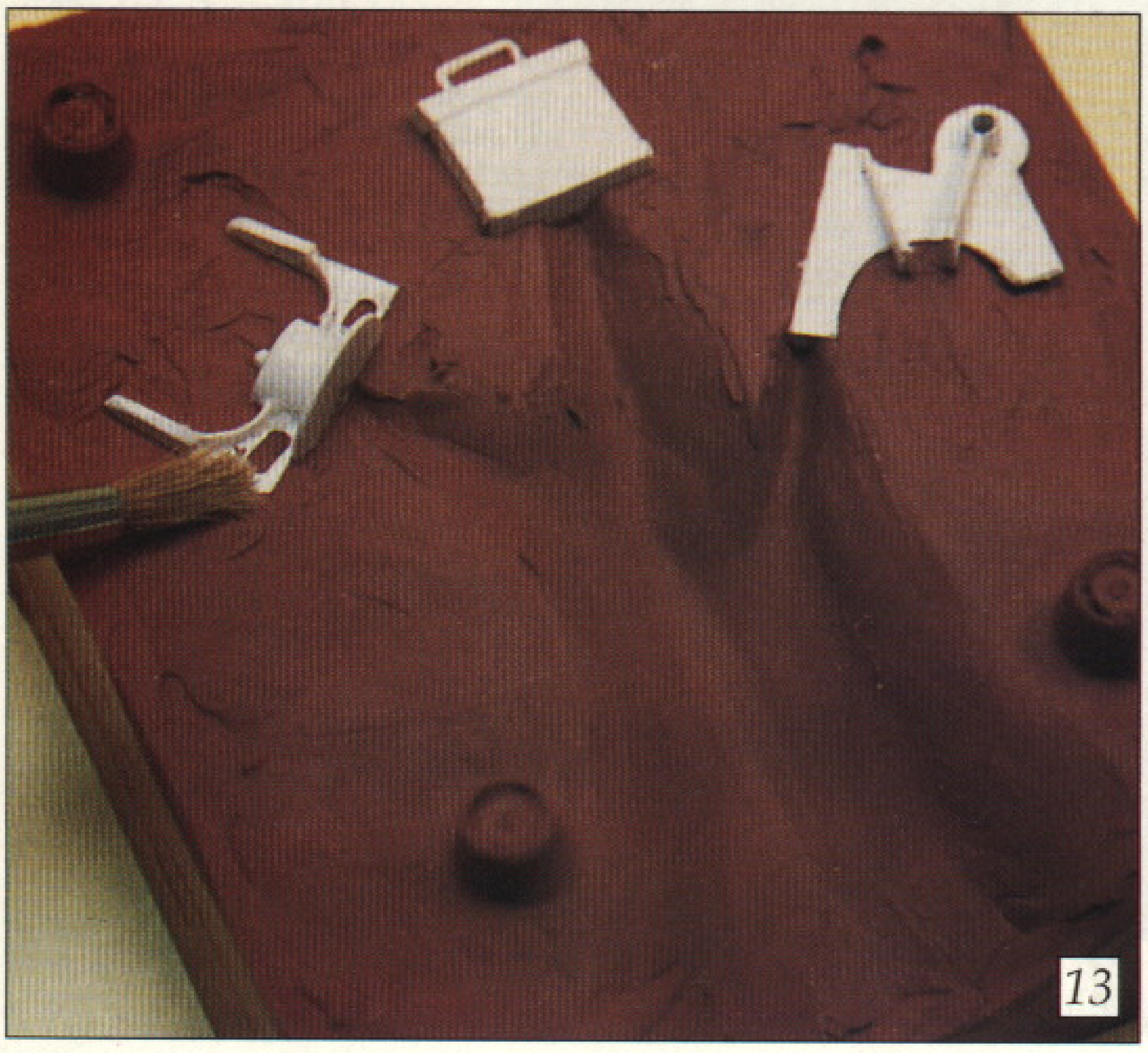
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inside of the mould will be somewhat softer than the outside face - unfortunately it's a matter for experience and 'feel', but you will soon know if the rubber is fully cured once you start removing the rubber from the wax.

**(Photo 3).** Prising the rubber away from the wax bed; great care should be exercised in this operation as it is at this point that the master parts can get damaged if they have not been securely assembled. The rubber will come away very freely from the wax, and usually from the component, unless there is an undercut trapping the part. The wax on the other hand does not release the parts freely and so there is the potential for pulling components apart. It is usual to separate the two halves in the same way you would cut a deck of cards, but little by little, side by side.

**(Photos 4 & 5).** The first stage mould immediately after opening and photo 5 is the 'opposite' side of the mould with the components still in place. Set the rubber mould aside to 'harden off, which takes about 2-3 hours, but the longer you can leave it the better.

## Making the second stage mould half

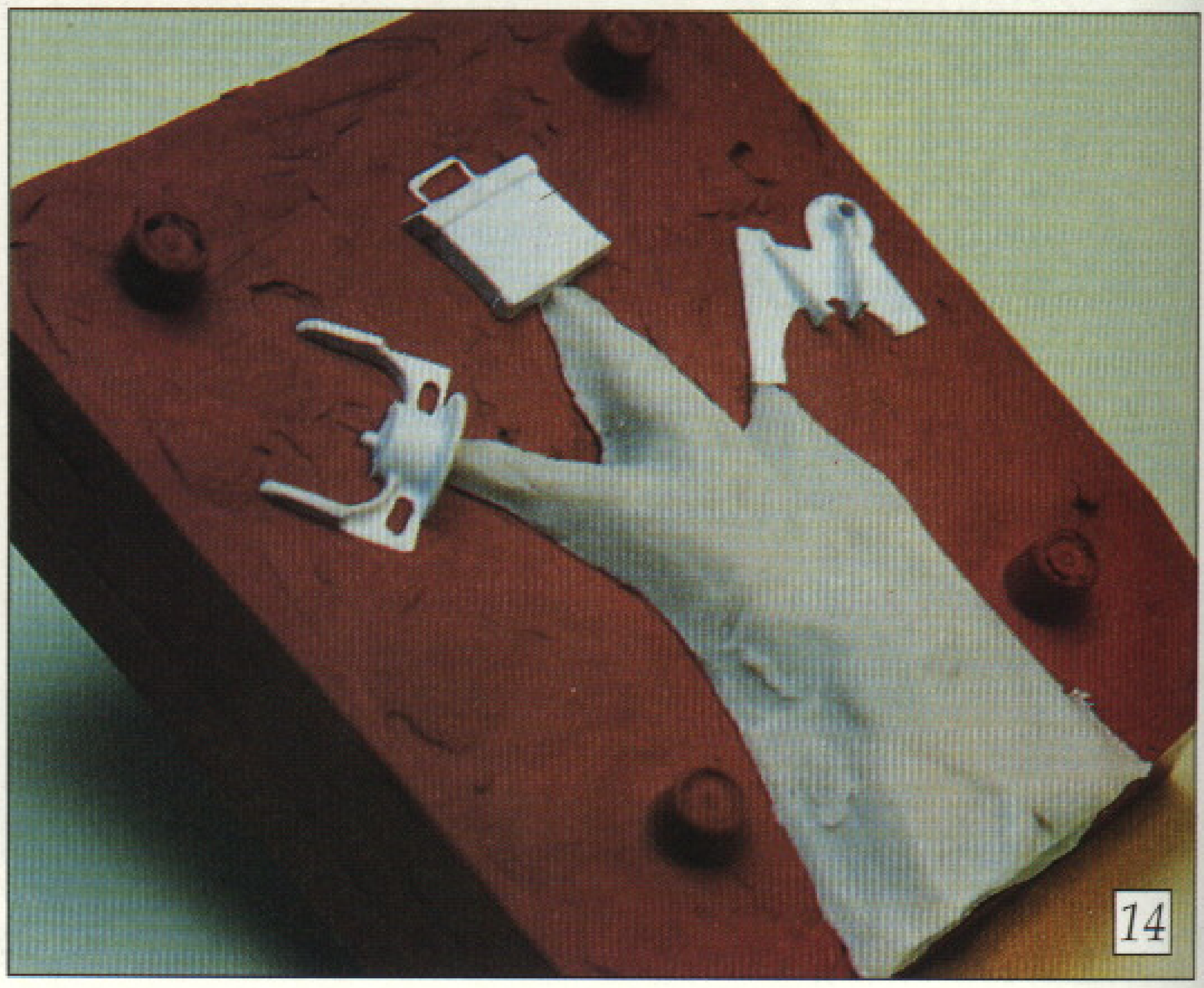
**(Photos 6-9).** The next operation is to remove the master from the wax bed. These photos show the sequence of scribing around the parts, lifting them clear, and photo 9 shows the wax 'feeder funnel' scribed around for re-use in the next stage.

**(Photos 10-14).** The 'feeder funnel' should be removed (photo 10) and tested for fit in the rubber mould (photo 11). The master parts should now be cleaned up of any residual wax and fitted back into the rubber - ensuring that the correct face is showing; (i.e. the face that was embedded in the wax - see photo 12). The parts should be cleaned up with a soft, but slightly stiff, brush (photo 13) and any loose rubber 'bits' trimmed off. The feeder funnel can now be connected to the components (photo 14) and smoothed over ready for the next stage.

**(Photo 15).** The 'fence' being rebuilt around the rubber mould. You will see that the fence is raised a little to ensure correct depth of mould when silicone rubber is poured to form the second mould half. The depth of the mould needs to be about 15mm, but aim for a minimum thickness of 6mm from the tallest point on the component to the top of the fence.

**(Photo 16).** Once again wrap securely with tape and spray with DP100/2 release agent. Mix up some more rubber (as part 1) and go through the same process as used for the first stage mould.

**(Photo 17 & 18).** The sequence of cleaning the mould and preparing for the silicone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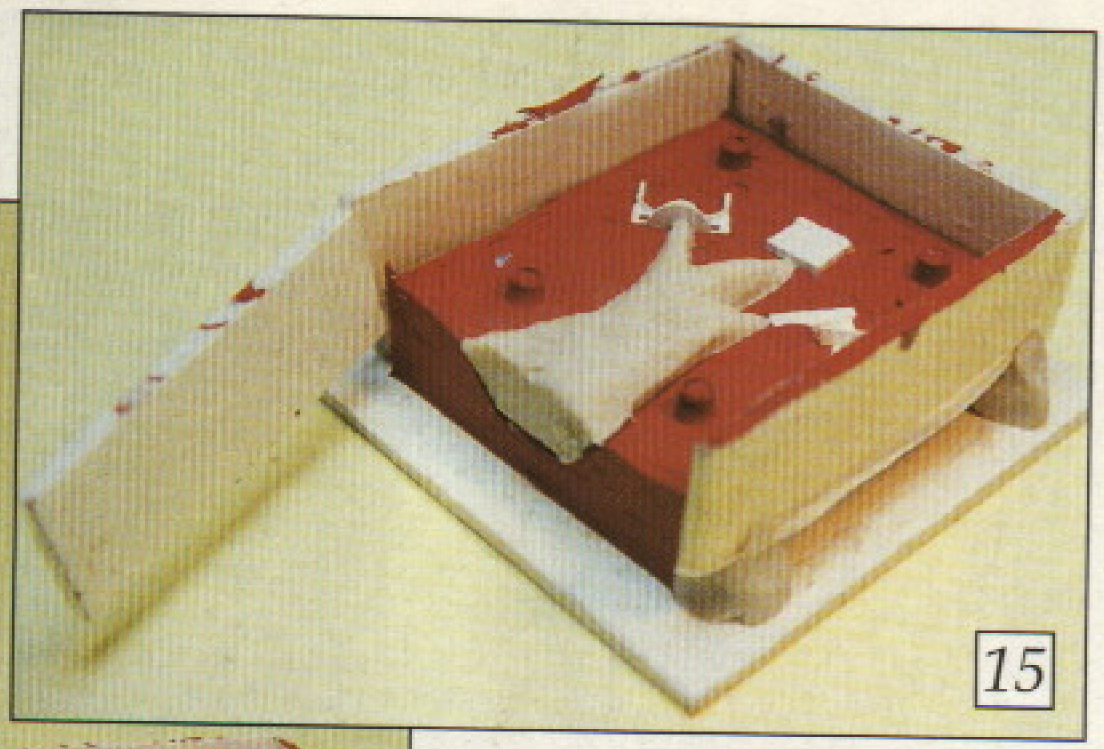
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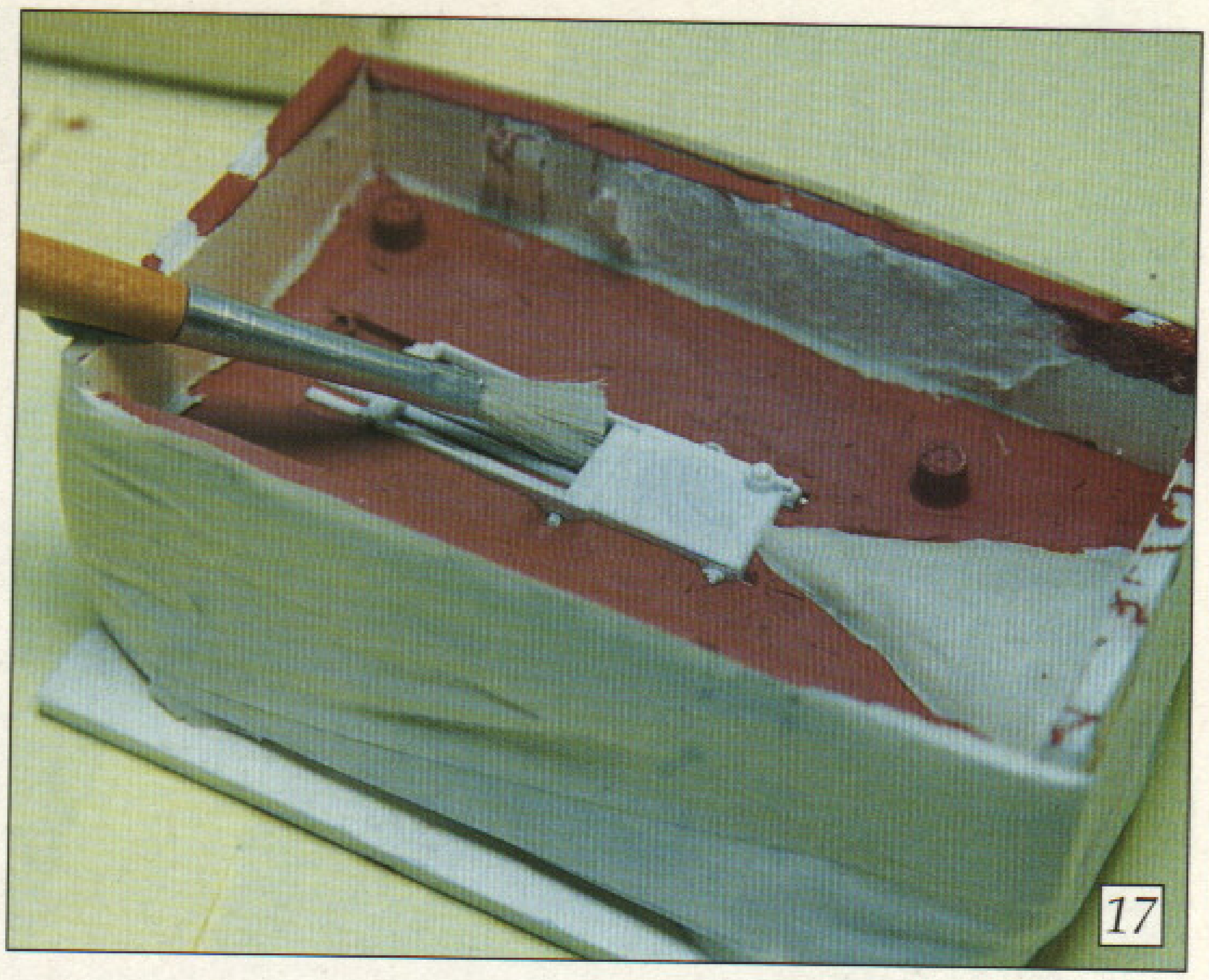
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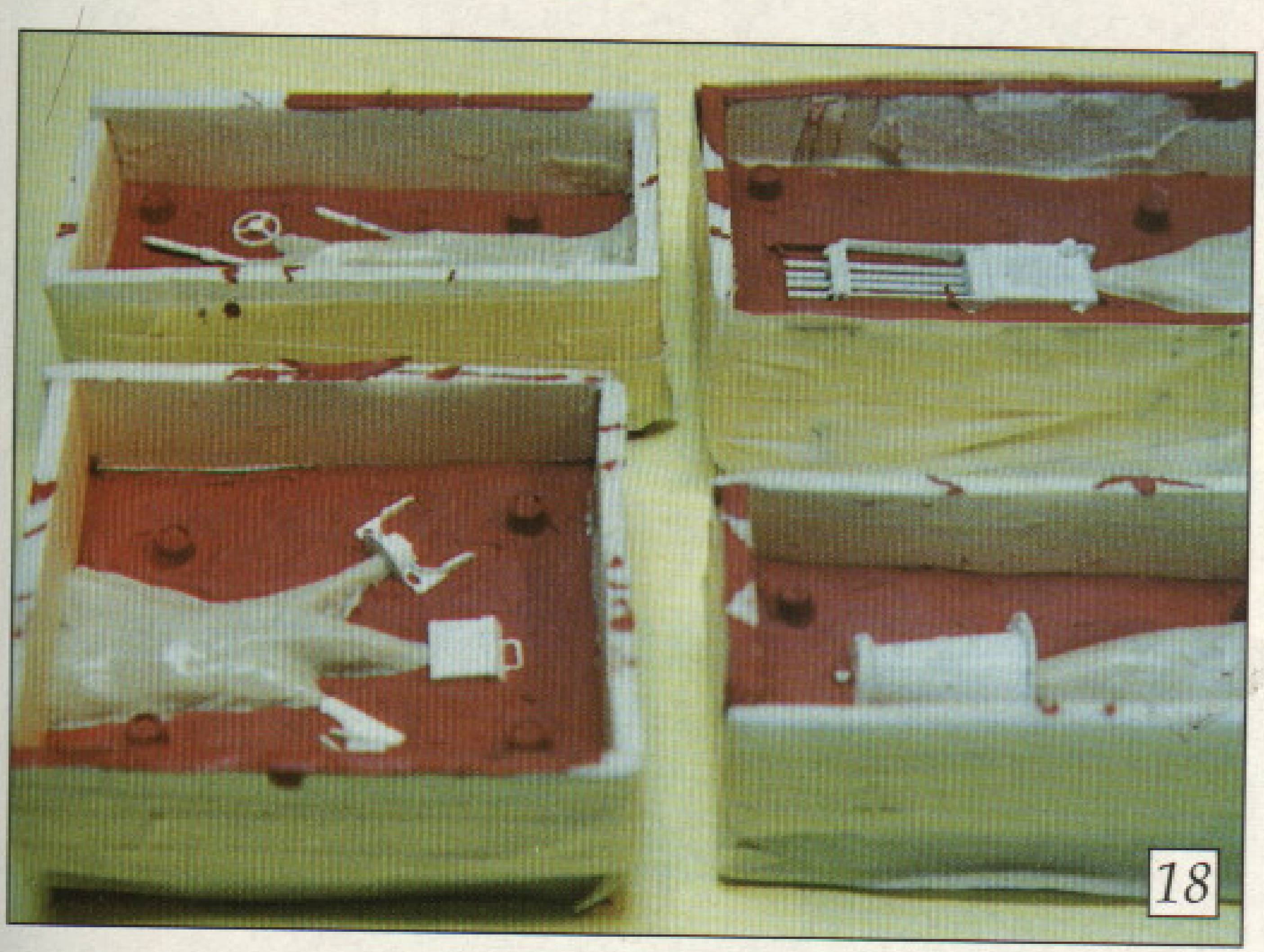
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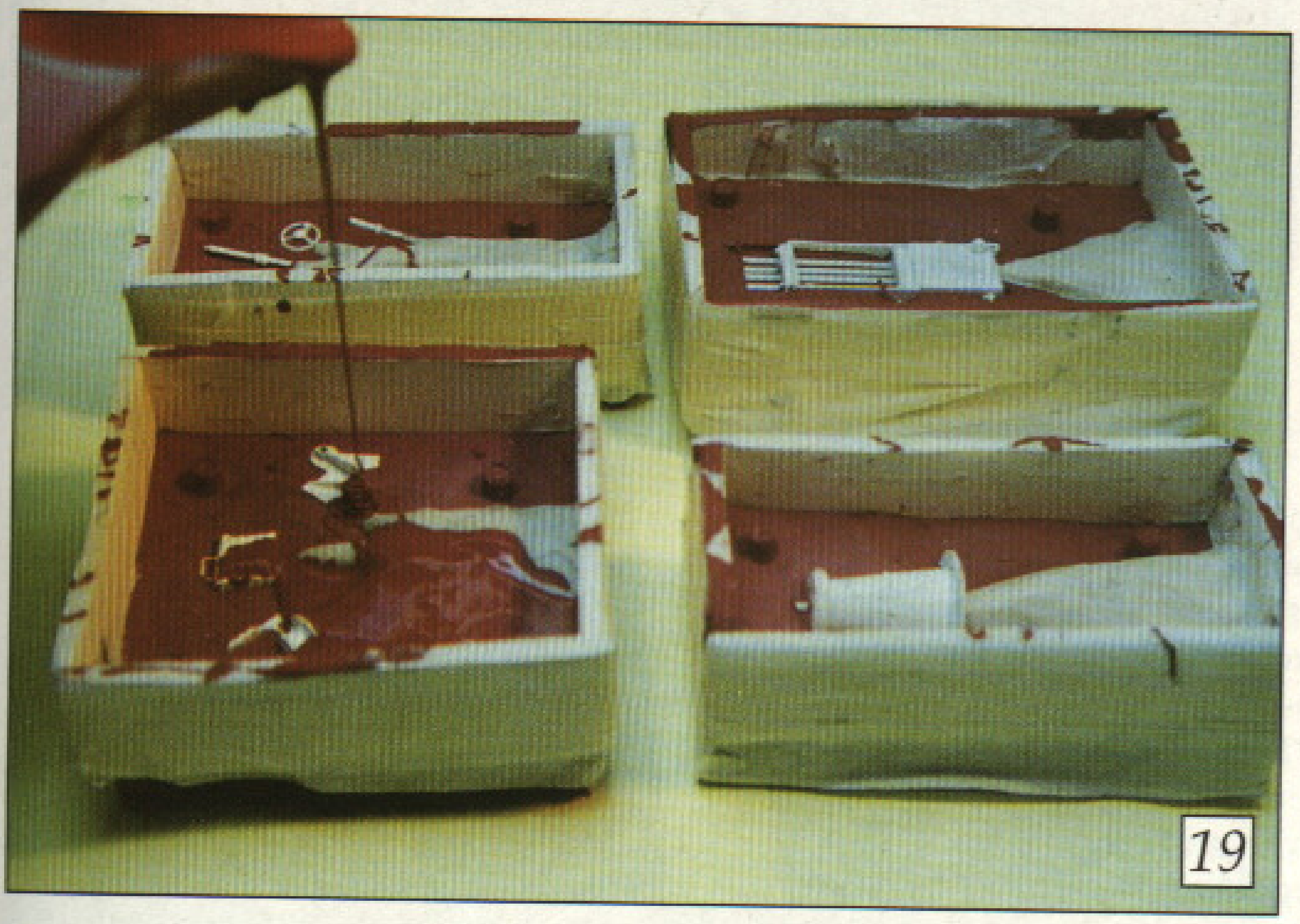
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rubber (photo 18) shows the moulds made ready and sprayed with release agent, which is absolutely essential as unvulcanised RTV31 will interact with vulcanised rubber and join itself together if a good, sound, undisturbed release agent barrier is not present. **(Photos 19 & 20).** The pouring process with (photo 21) the moulds complete and air bubbles coming to the surface.

**(Photo 22).** The silicone rubber process is now complete and all that is required is the 24-hour curing time. When you are happy that the rubber has cured, all as previously explained, open up the mould and remove the master components, clean, trim and set aside to harden off.

## Casting in white metal

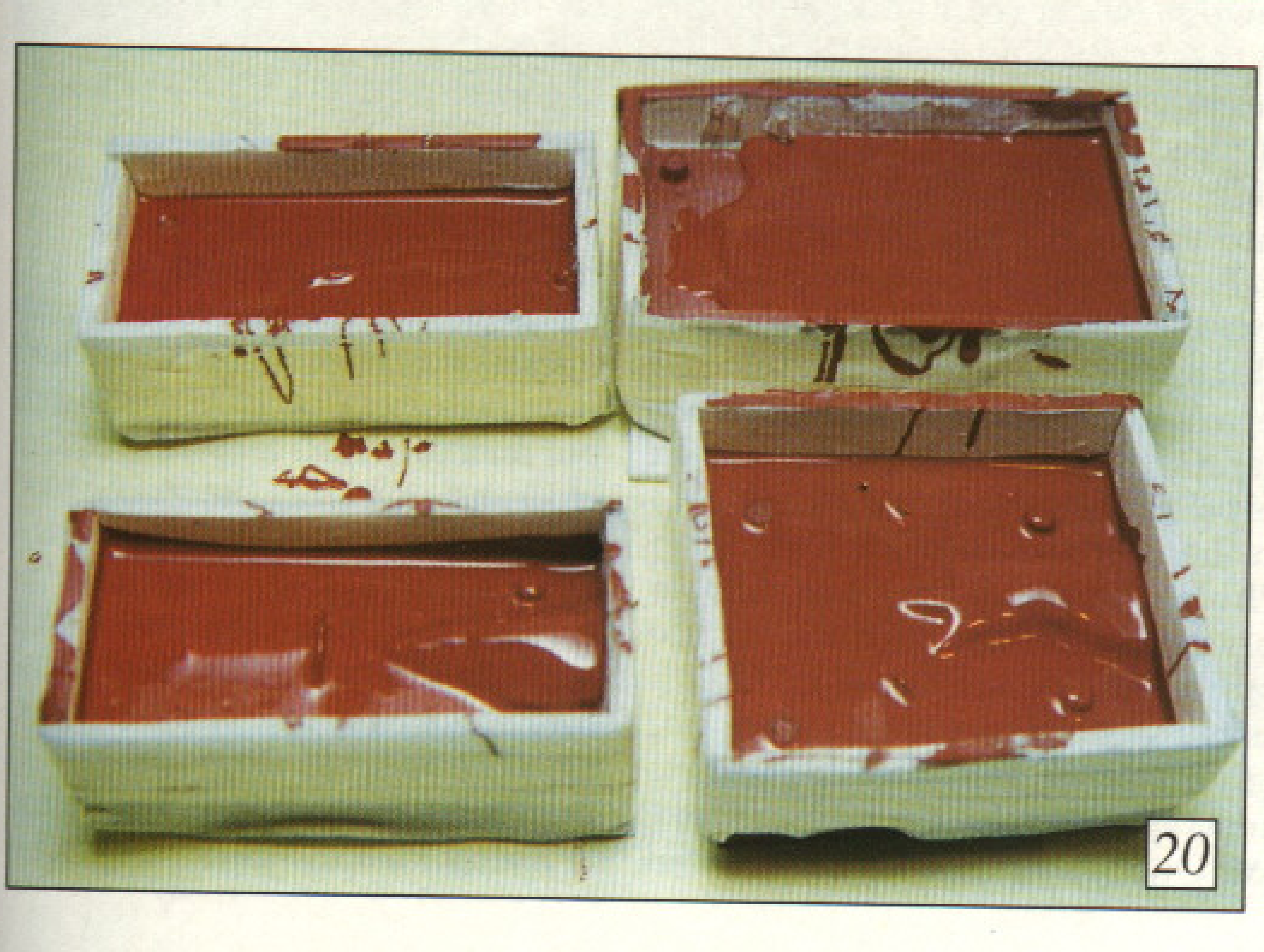
First of all the mould halves must be cured (obviously) and, most importantly, they MUST BE DRY. Hot metal in a damp mould will burst the mould sides and you will get burned; - I know, I learned the hard way!

As far as health and safety goes I could spend this whole article explaining the pro's and cons. I assume, however, that the reader will understand the fundamental issues; molten metal at 250°C is potentially dangerous and heating sources (bottled gas) can be explosive! Buy a good stout pair of leather (not plastic) gardening gloves - they are an essential item - I got mine from 'Do It All' for £2.99!

**(Photo 23)** This is the set up I use. I made the melting pot from an old tin of tuna with a coat hanger handle. The heat source is a camping stove and the 'safe area' is provided by a large biscuit tin lid. The 'G clamps' come from a stall on the local market, you will also need talcum powder, small squares of hardboard or ply to spread the load when clamping the mould halves, a small screwdriver or piece of mild steel to remove molten metal dross and use as a tamping tool and finally, wire cutters for trimming off feeder sprues.

**(Photo 24).** A selection of tools and equipment.

**(Photos 25 & 26).** The mould halves should be brushed clean and any loose rubber bits should be removed and the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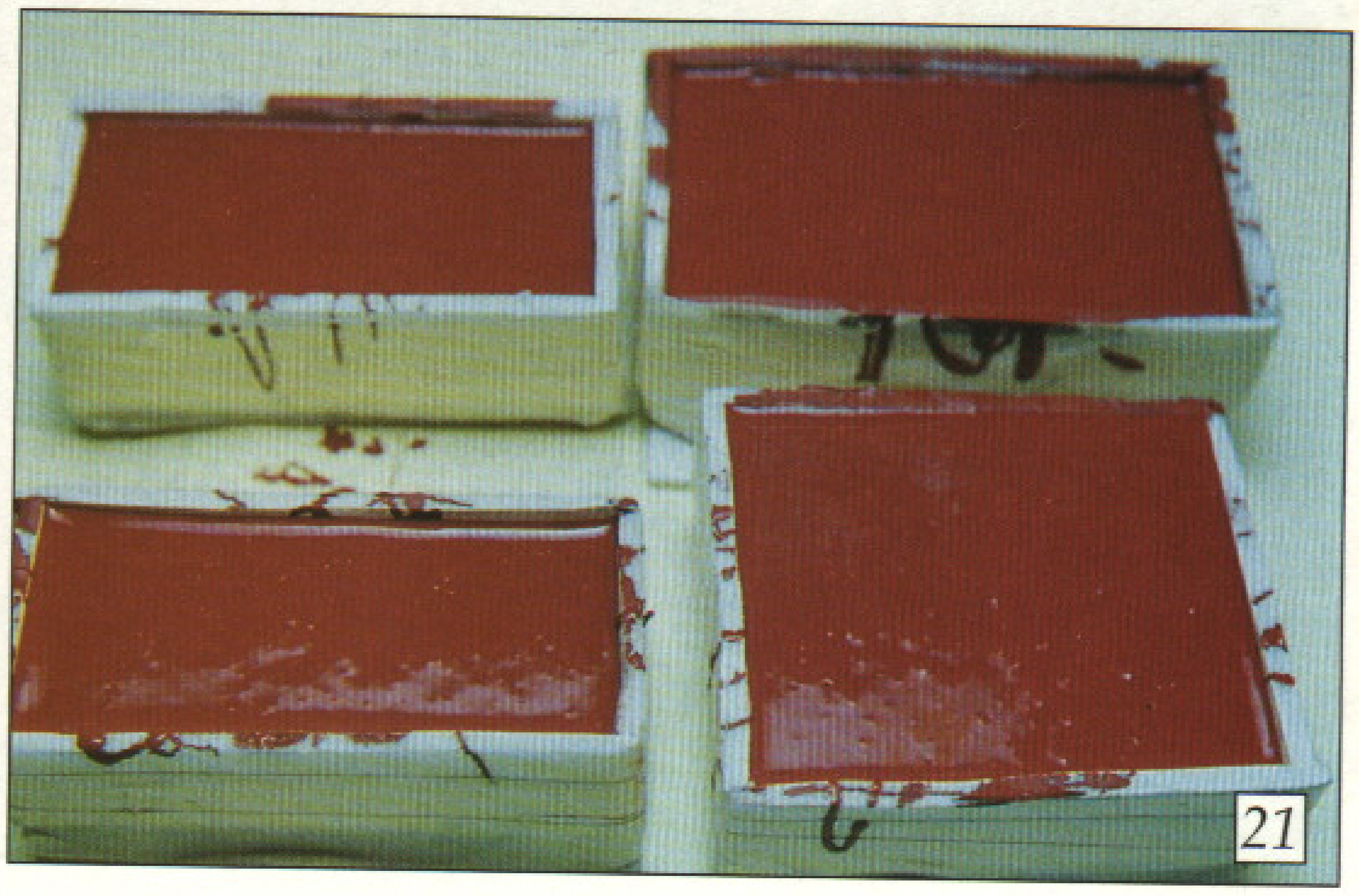
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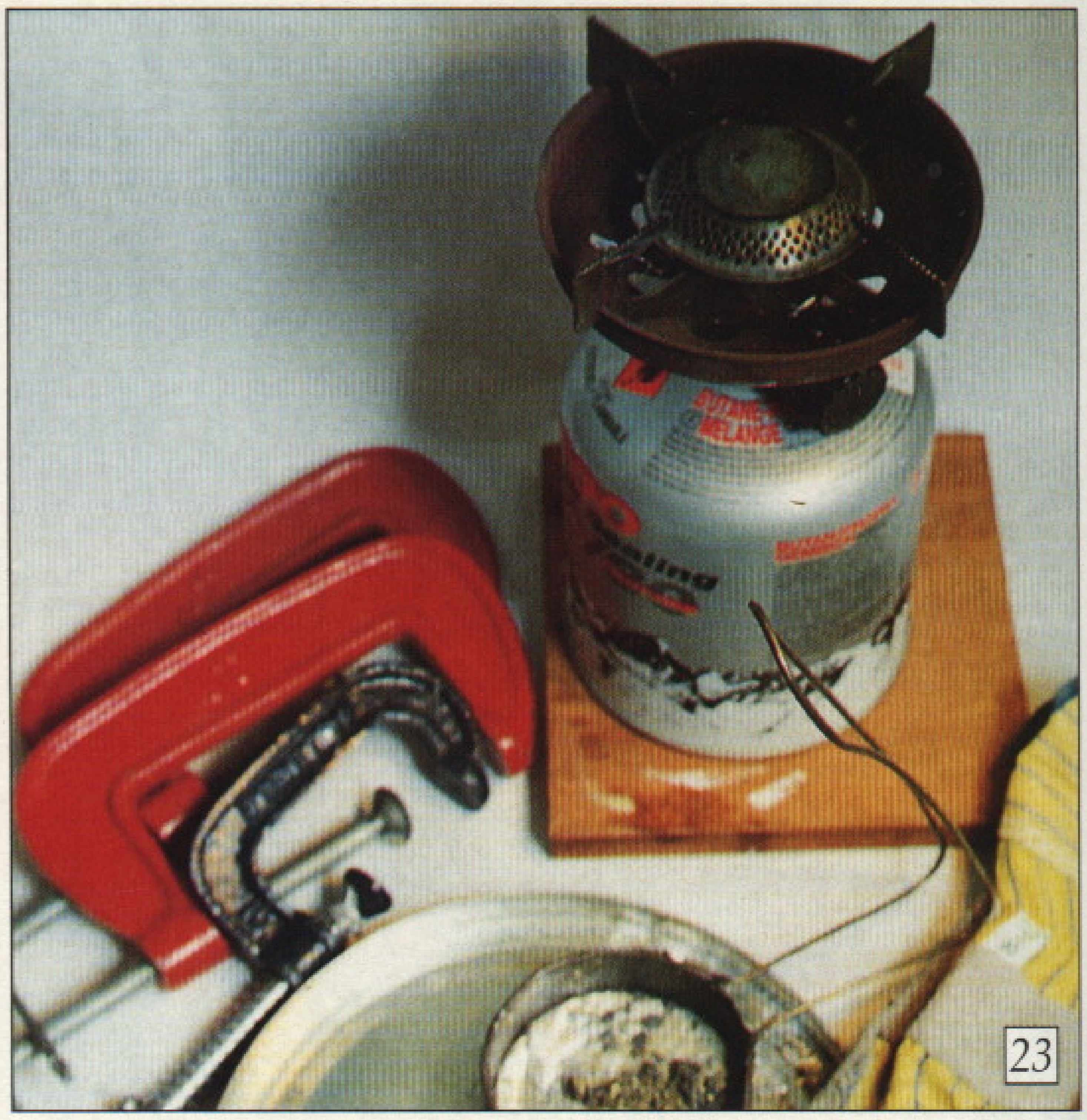
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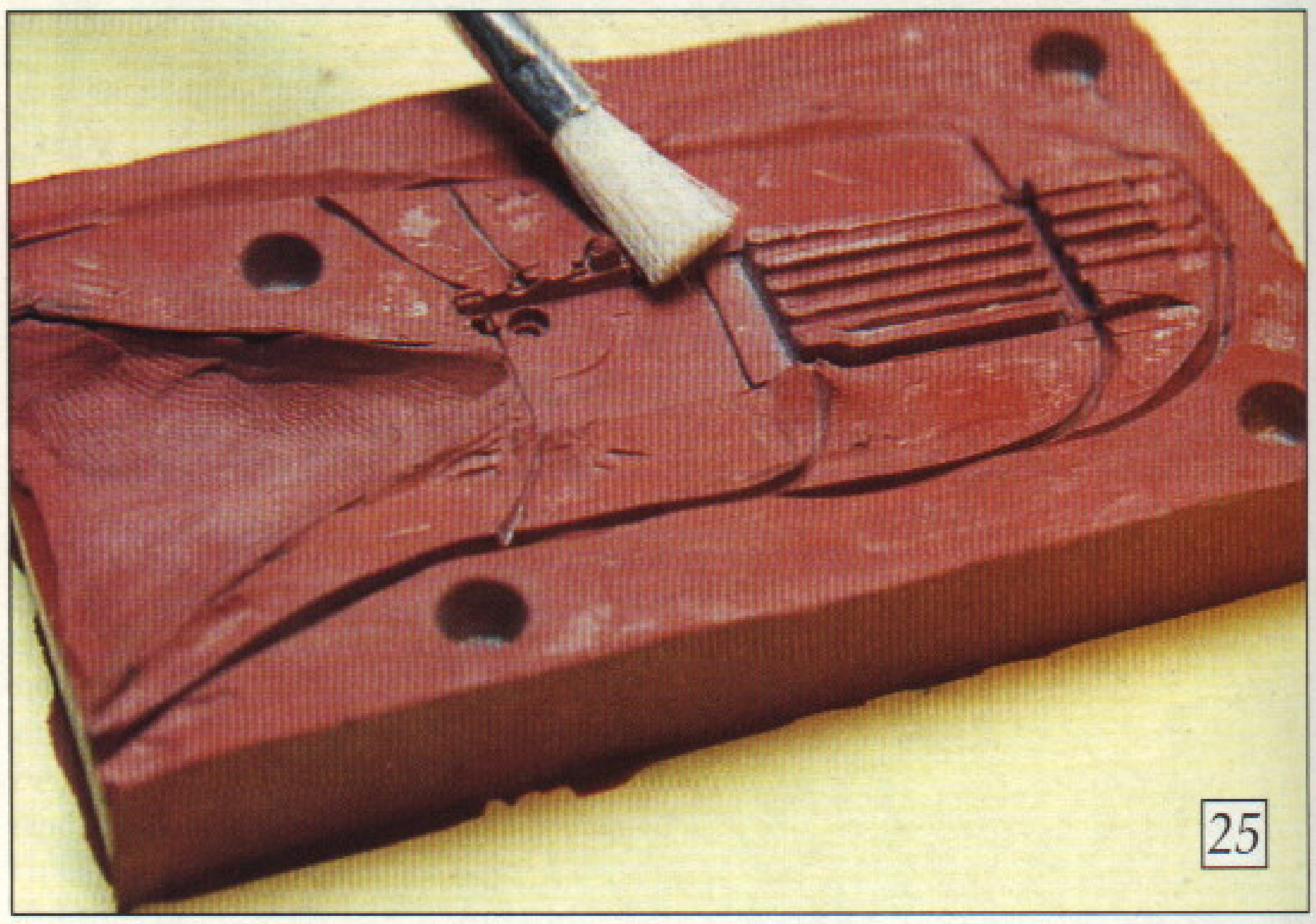
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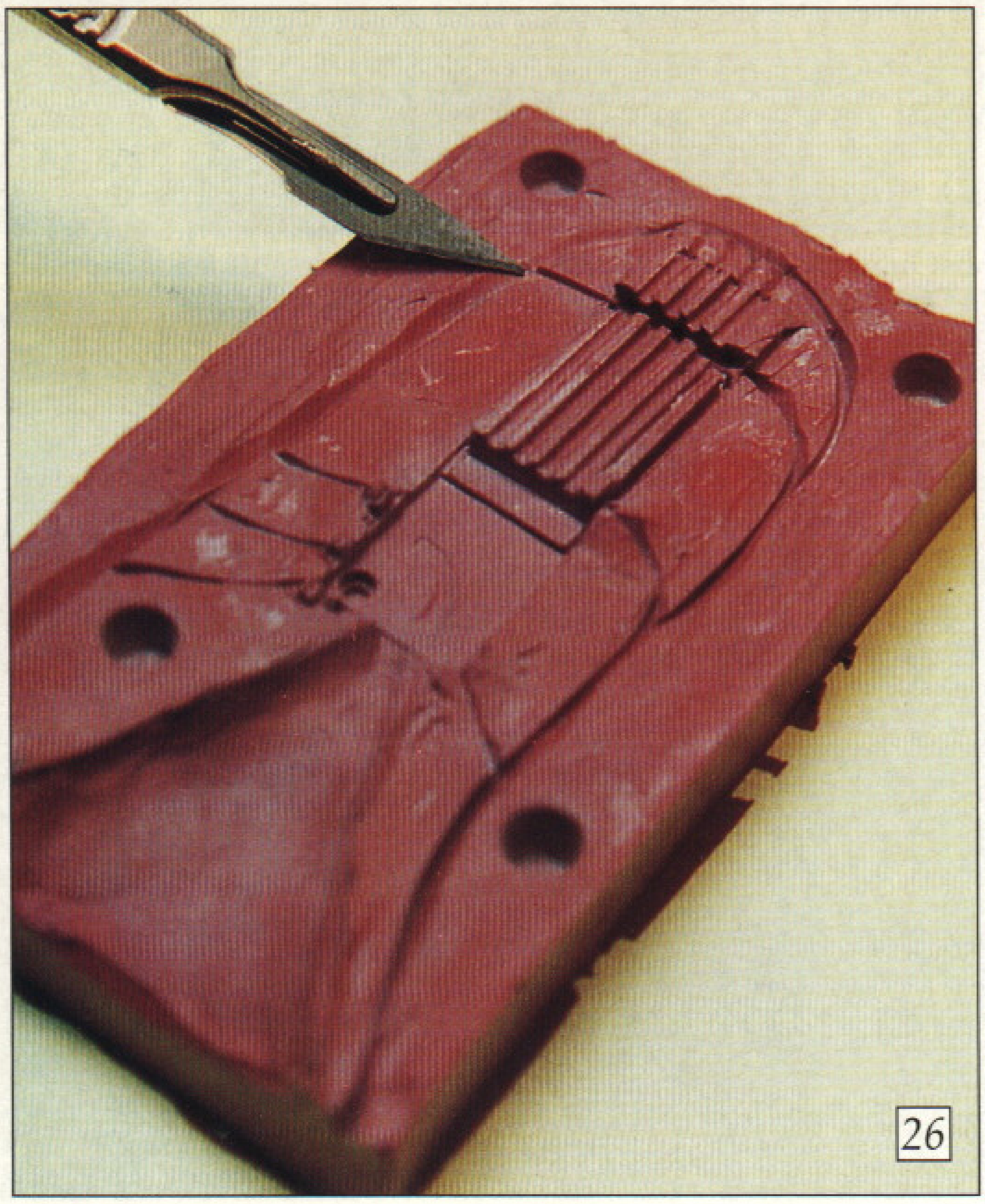
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pour funnel 'gates' should be cleared of any obstruction, use a scalpel to cut away any excess rubber (photo 26) if necessary.

**(Photo 27).** Sprinkle talc onto both halves and, gripping both halves on their edge 'clap' both together several times until the powder has spread about into all the nooks and crannies of the mould halves. Do not be tempted to blow excess powder off as this can deposit moisture onto the mould, simply shake excess powder off. The talcum powder creates a micro surface which allows air to circulate between the rubber and molten metal during pouring, it also helps to promote a matt surface on the cast component.

**(Photo 28).** Bring the two halves together and clamp lightly, just enough to hold the parts together; do not over tighten. Now melt some white metal in your chosen melting pot. Once the metal has become molten it is surprising how low a heat is needed to keep it liquid, so practise a bit. With my camping stove turned down really low I have 12-15 hours of casting from a £5 canister of gas.

**(Photo 29).** Using a small steel screwdriver wipe the top surface of the metal to roll back the dross or grey skin; don't try and remove it, it's okay so long as it is clear from the pour spout of the melting pot.

**(Photo 30).** Steadying the mould by holding the clamp, pour metal from the melting pot onto the mould feeder funnel in one smooth operation until it is filled , put the pot down, - not back on the heat but on a safe surface (biscuit tin lid, etc.,) and steadying the mould by holding the clamp again tap it gently, but sharply, with the handle end of the screwdriver until the surface of the metal on the pour funnel flattens out and starts to set. Don't be tempted to open the mould yet, leave it for 2-3 minutes.

**(Photos 31-33).** When you do

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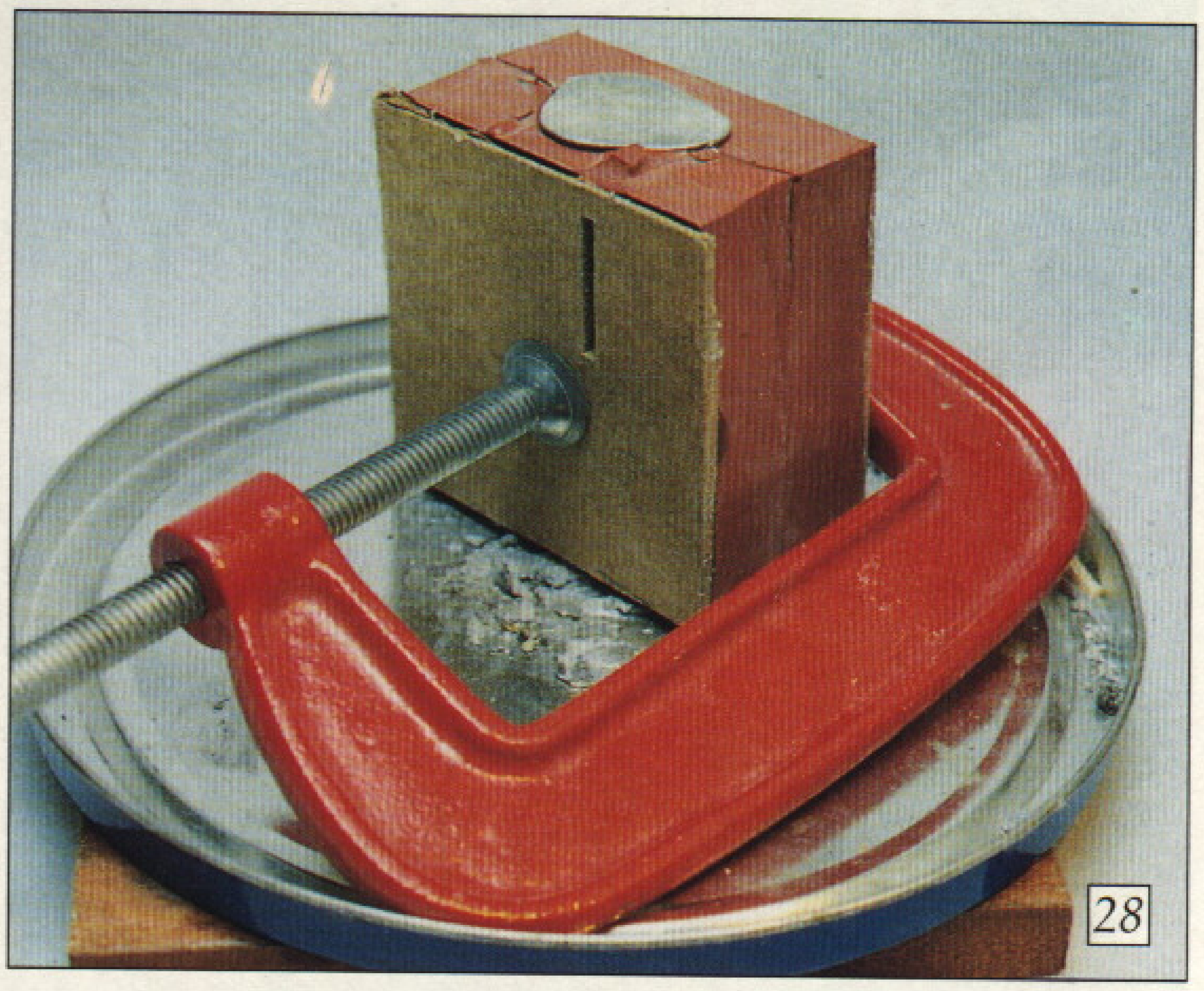
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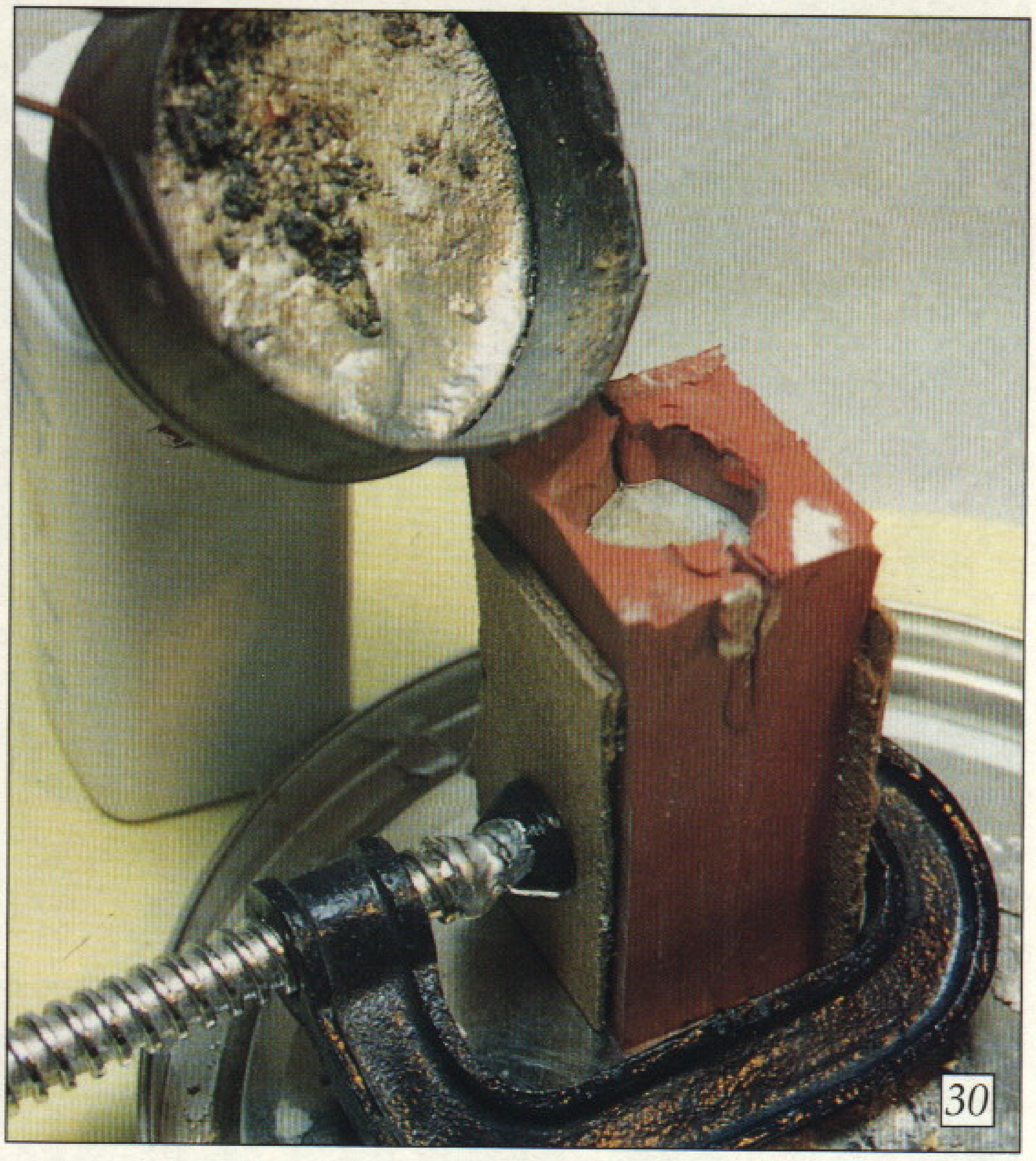
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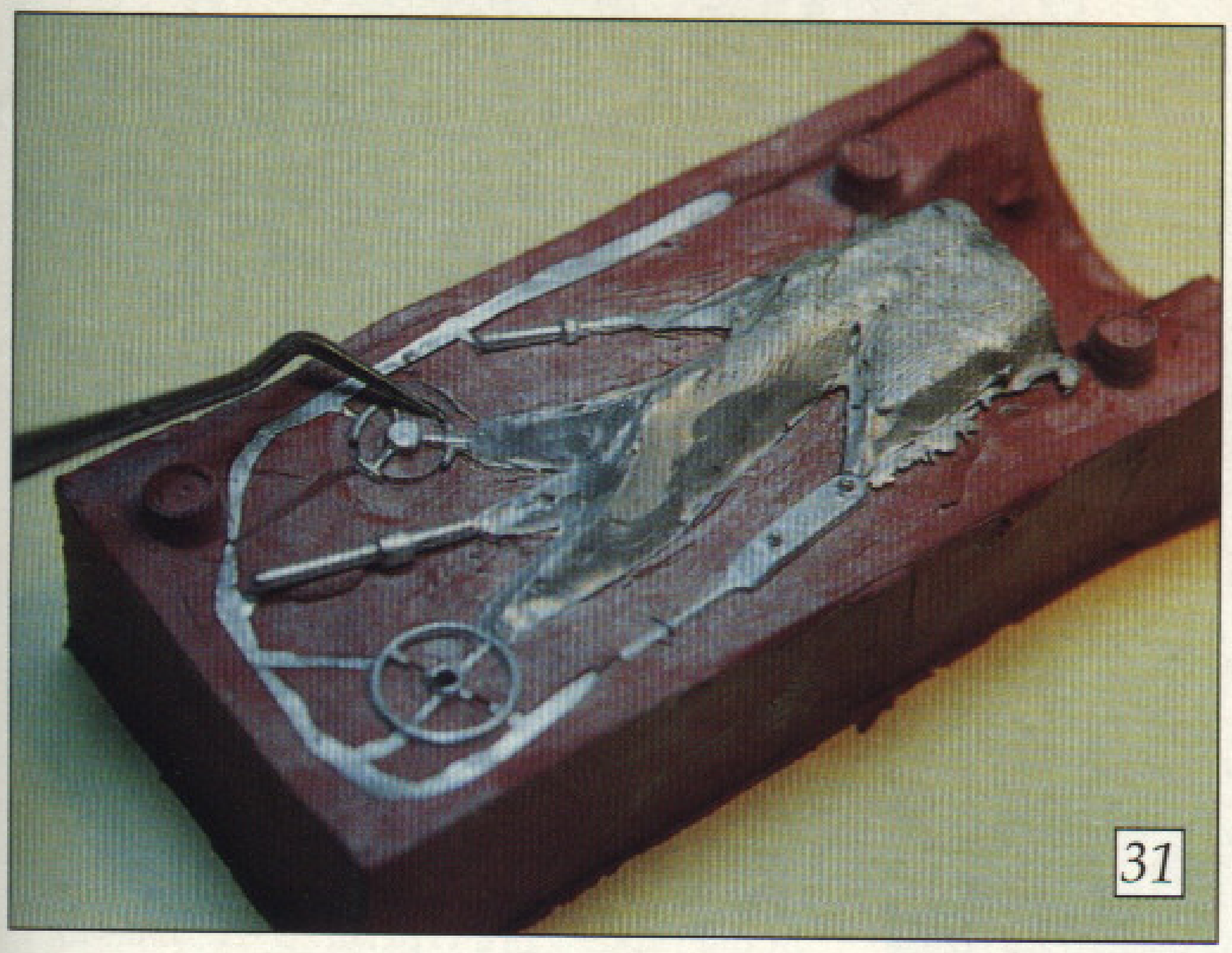
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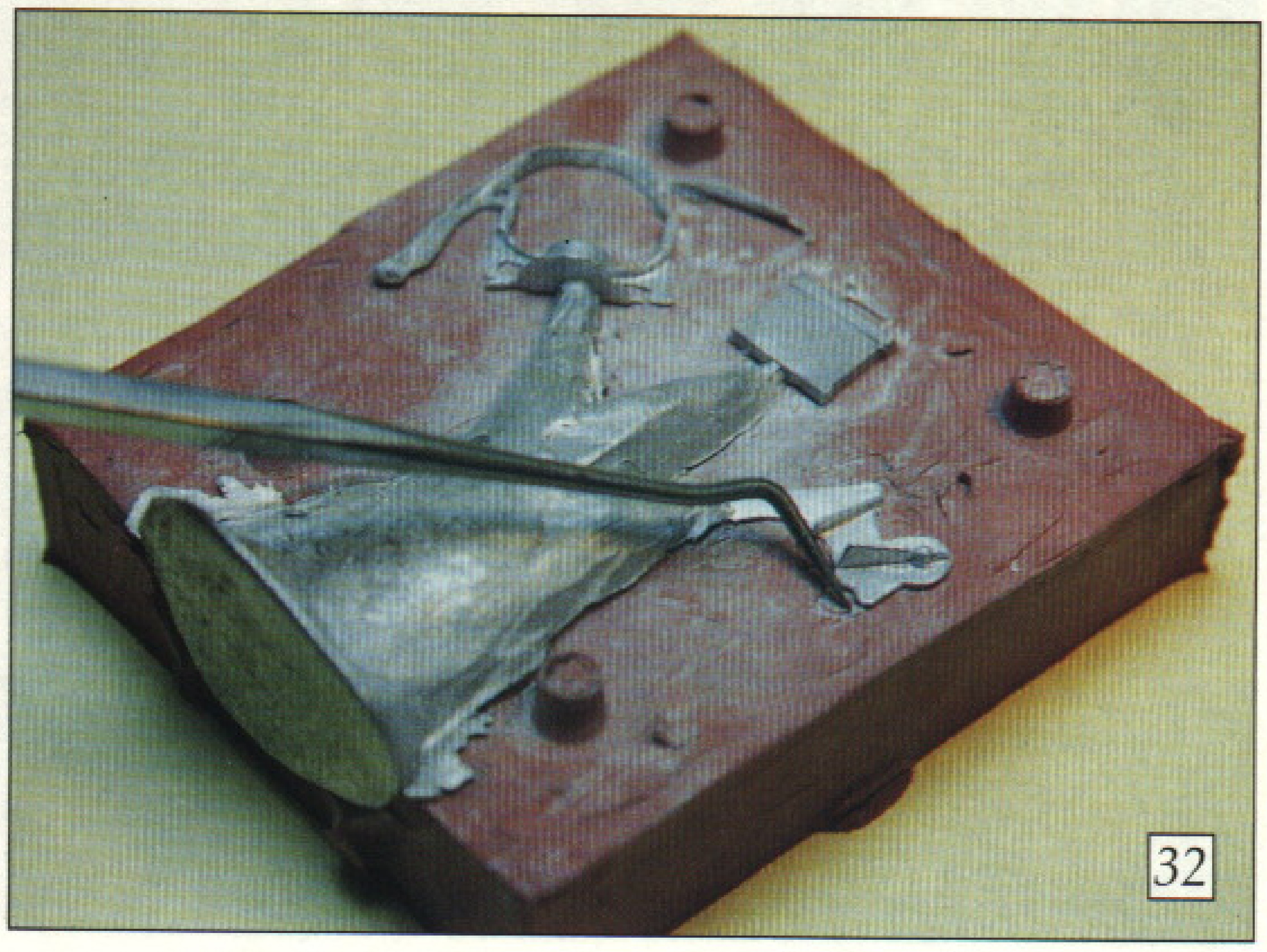
open the mould you may find that the parts are not complete and that metal hasn't flowed into all the cavities as pointed out in photos 31 and 32. This will invariably be caused by either or all of the following; clamp too tight, metal not hot enough or entrapped air. The first two problems can be solved with trial and error, the entrapped air needs to be relieved by cutting channels in the mould to allow air to run out of the mould ahead of the molten metal as it enters the mould (photo 33).

**(Photos 34-36).** Very carefully prise the part out of the mould, the metal will be set, but VERY HOT for a long time depending on the size of the part. The pour funnels are ALWAYS VERY HOT. You can now snip the pour funnel off (photo 36), save the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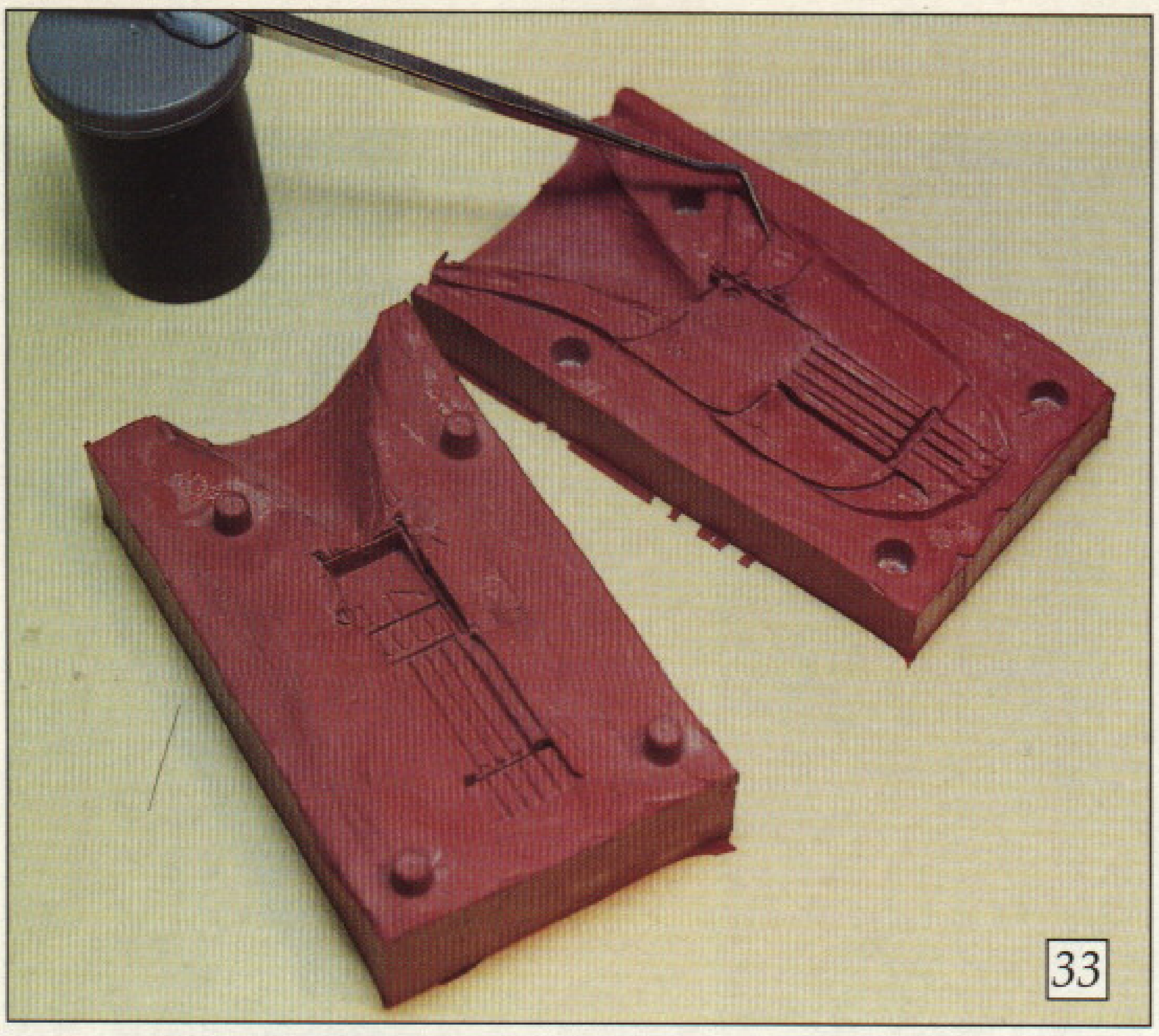
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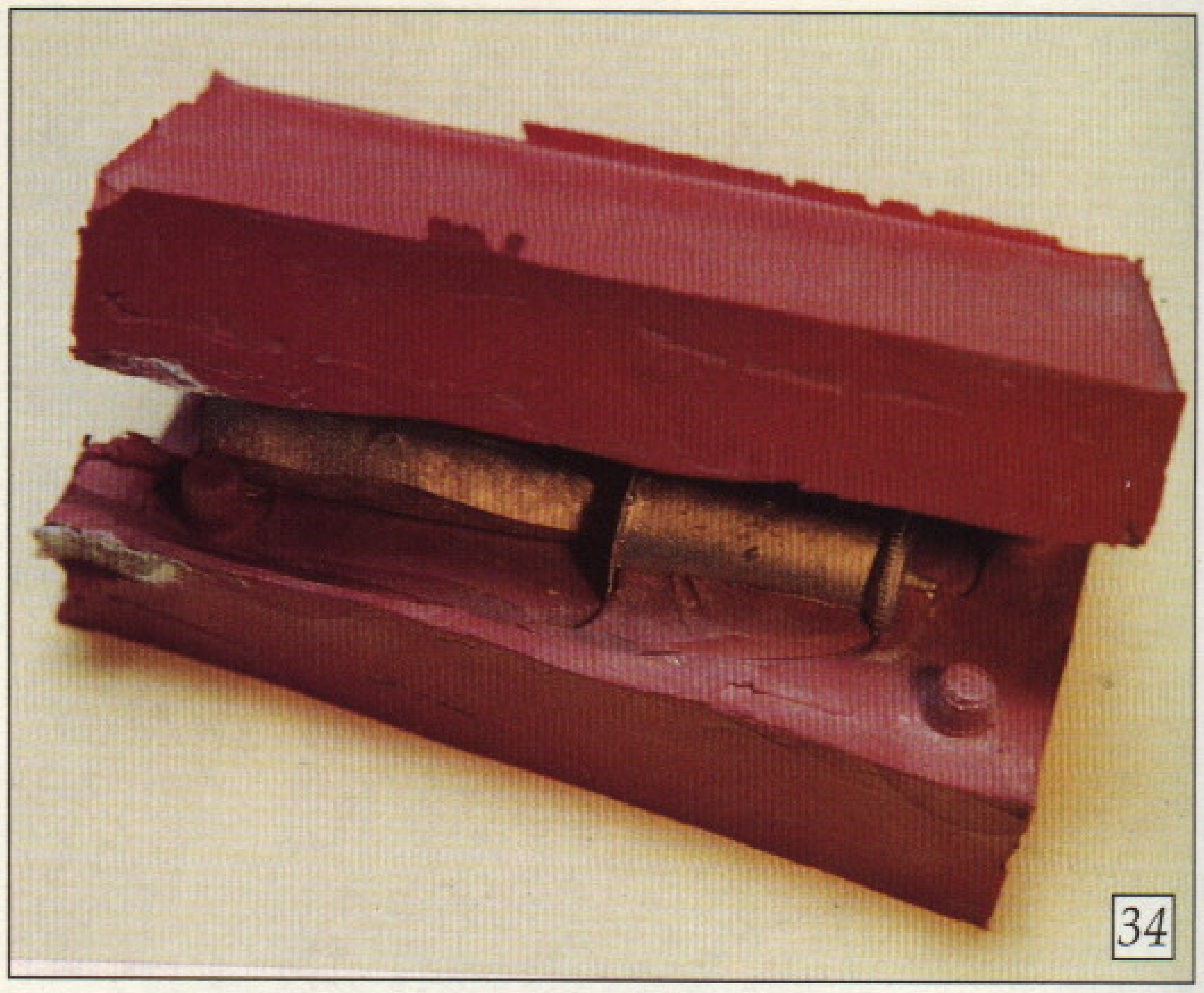
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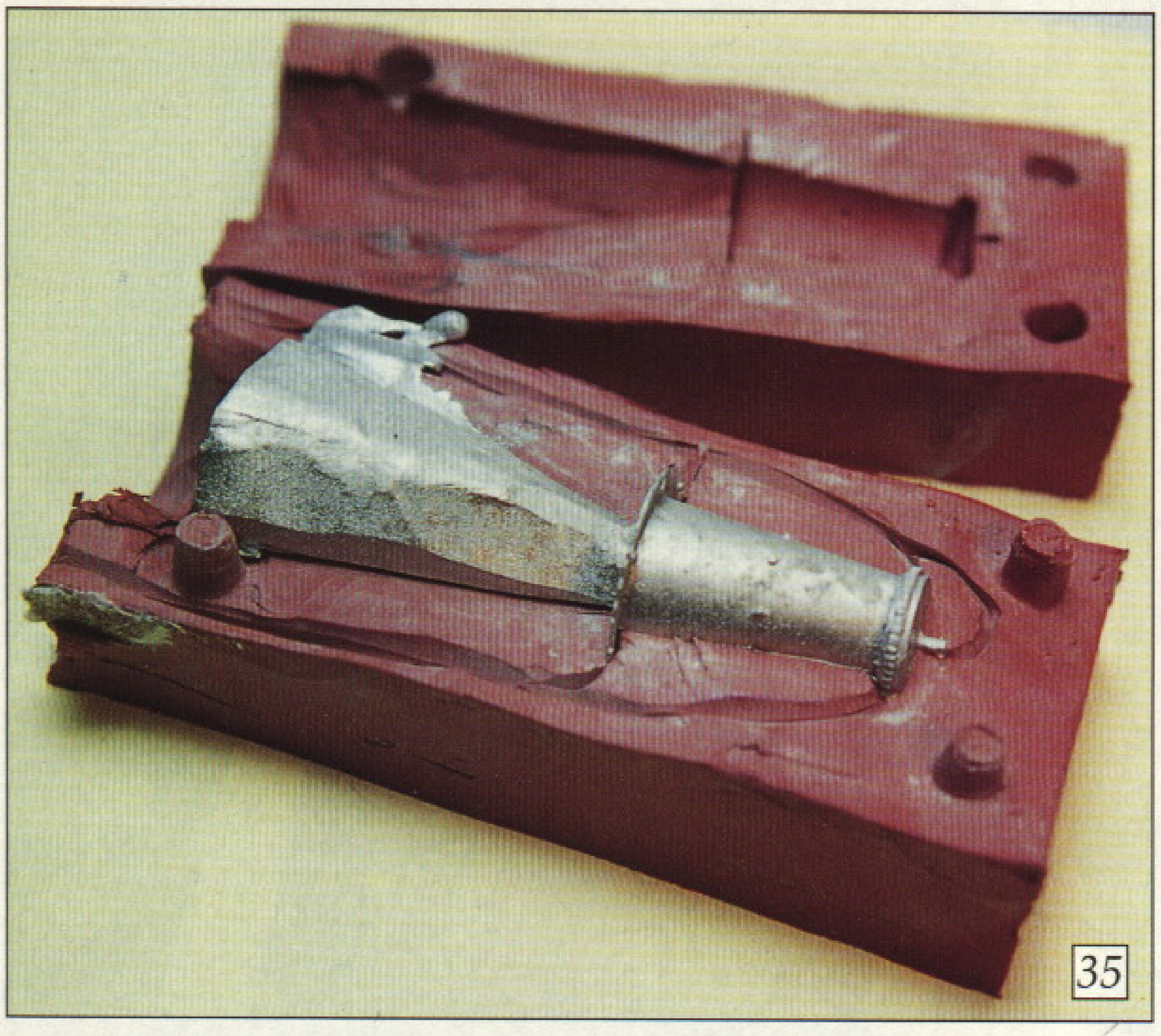
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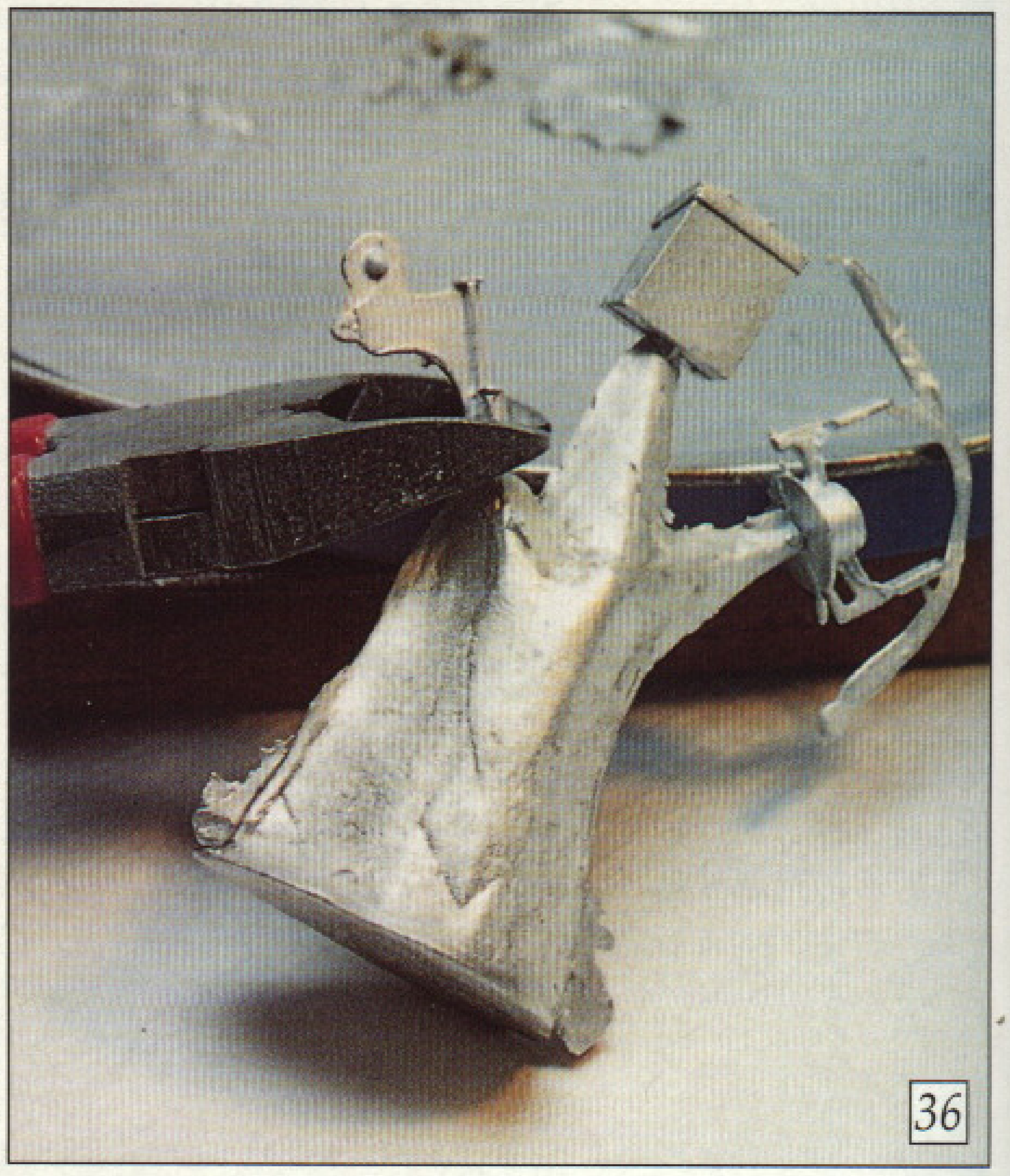
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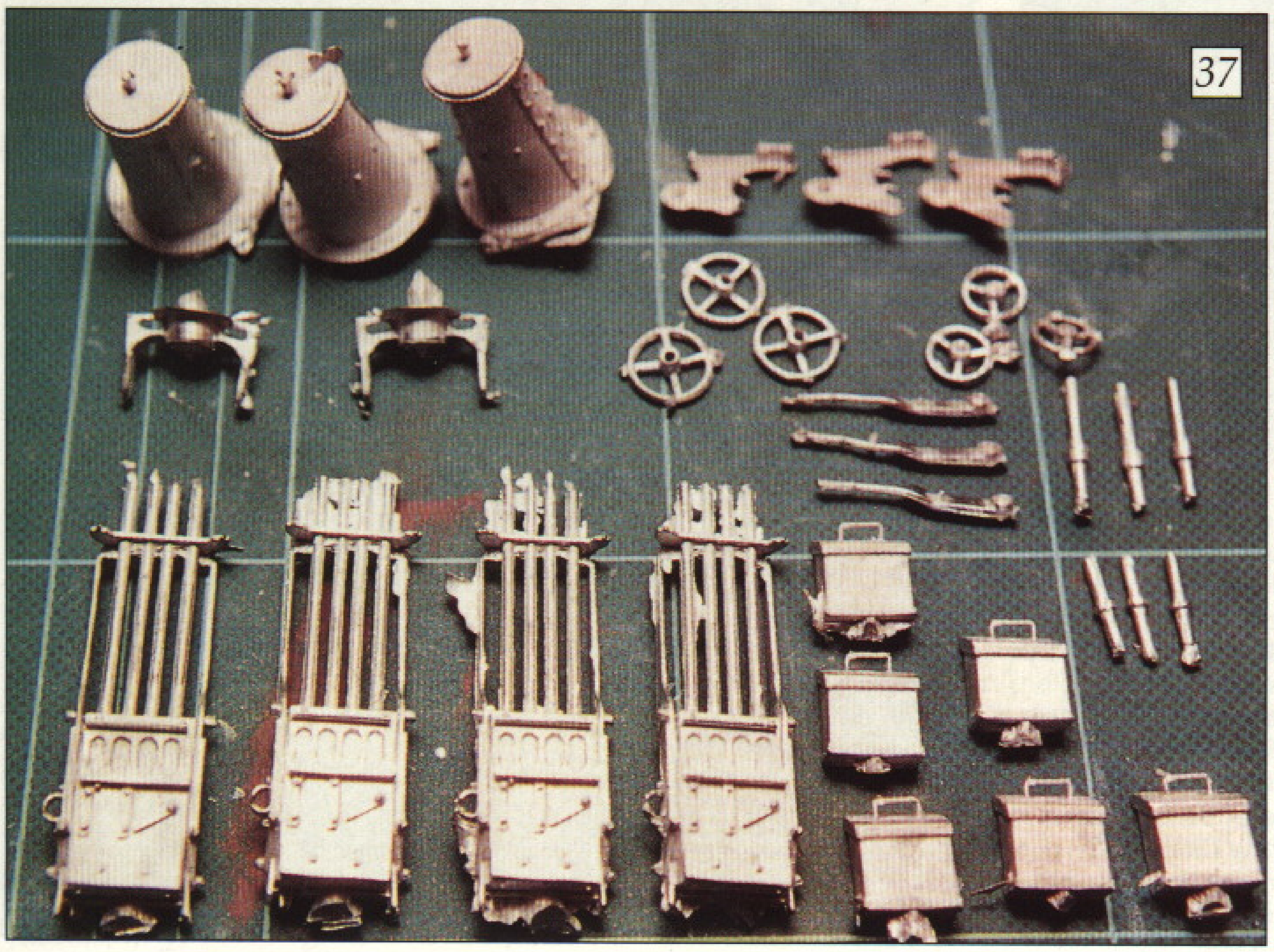
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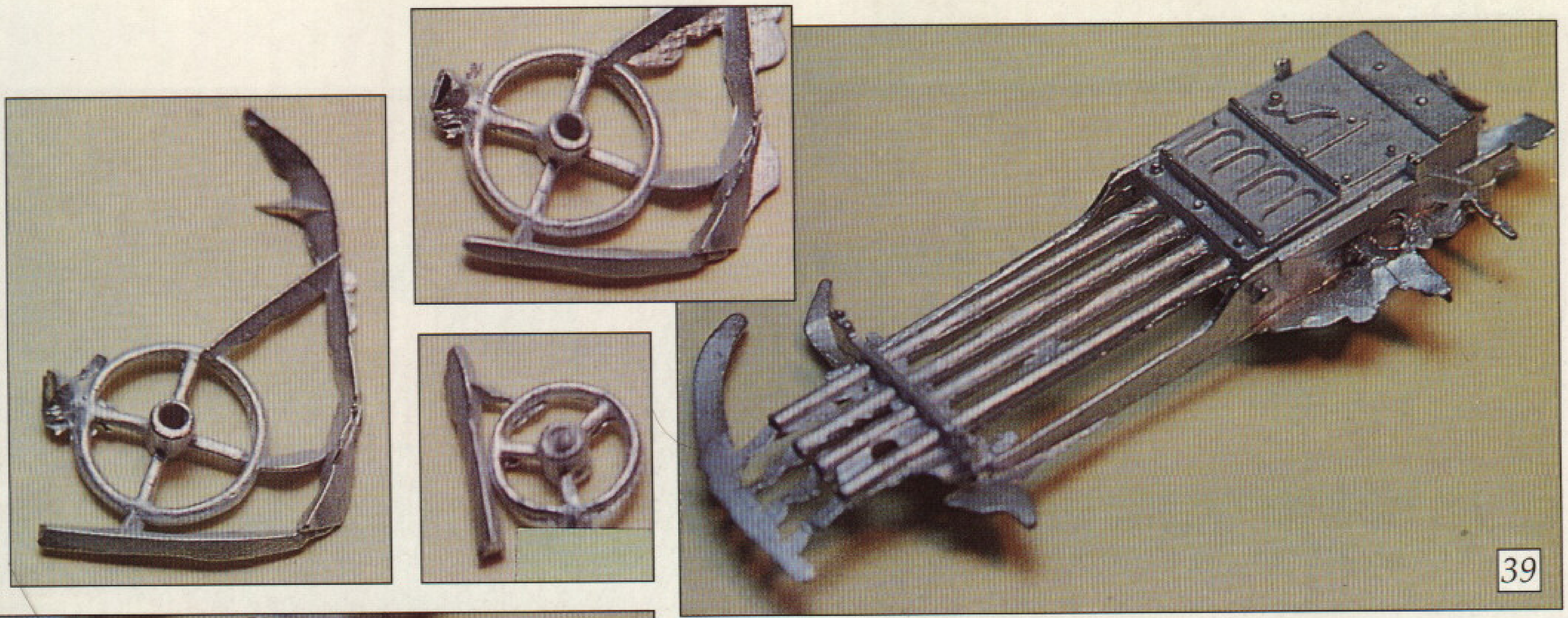
parts for cleaning up and drop the pour funnel and any incomplete parts back into the melting pot to start the process over again. **(Photos 37-40).** The only thing left to do is to clean up the castings when they are cooled and prepare for painting. These photos show some of the parts I have cast using this process. I cannot stress enough the need to assess all the health and safety risks with this method of home casting and take necessary precautions to ensure you don't get burned - or set fire to the shed!

At the time of writing this feature I am in the process of preparing a diorama for Euro Militaire. If I get it finished it will be a 20mm Oerlikon cannon with crew in 1:32 scale. Of course, I can't buy the 20mm Oerlikon model in kit form, and as I will need more than one, I'm getting busy with the RTV31! ■

## Acknowledgements

Thanks to John Tiranti for his assistance.

*All photographs by the author*



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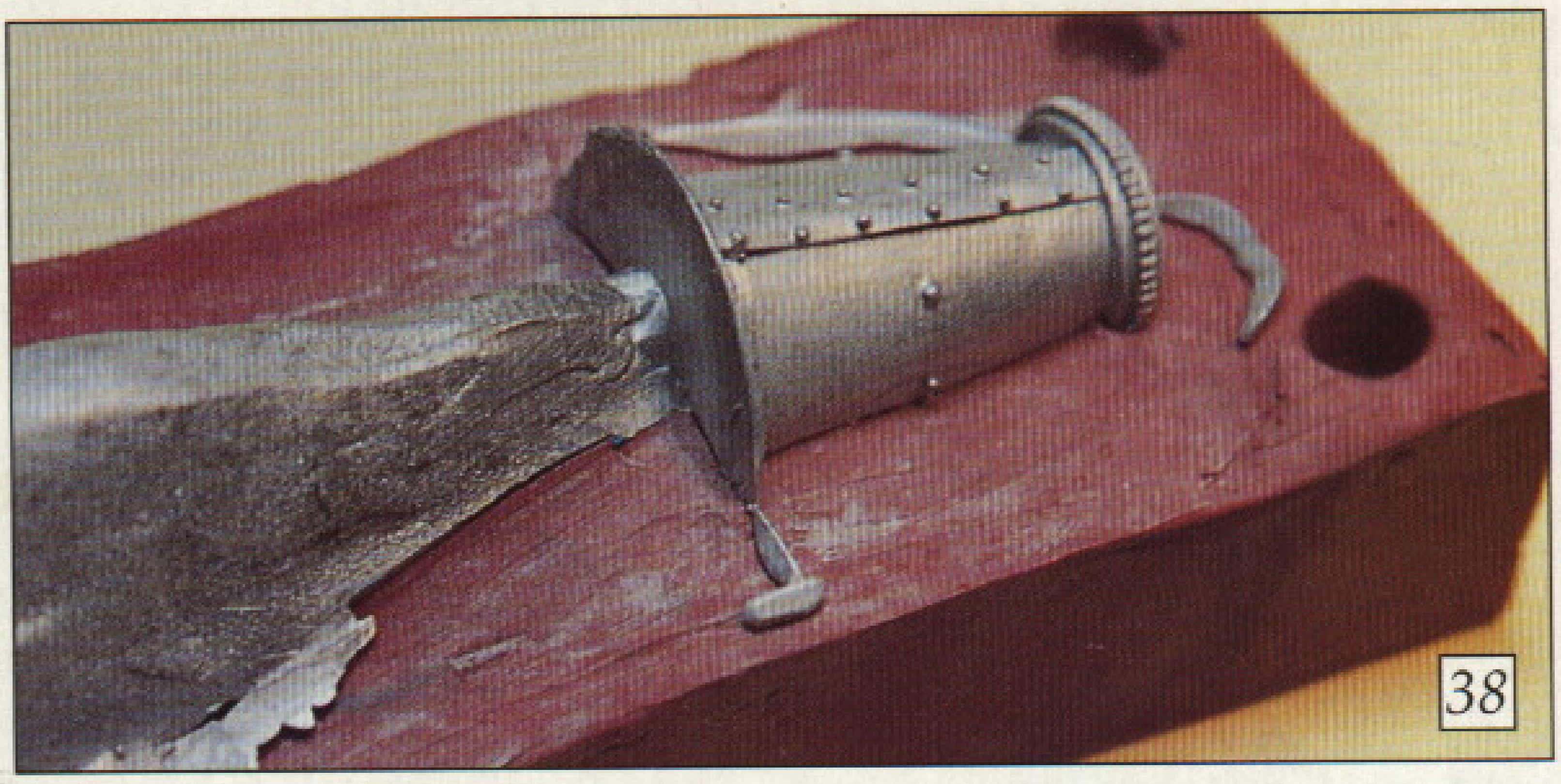

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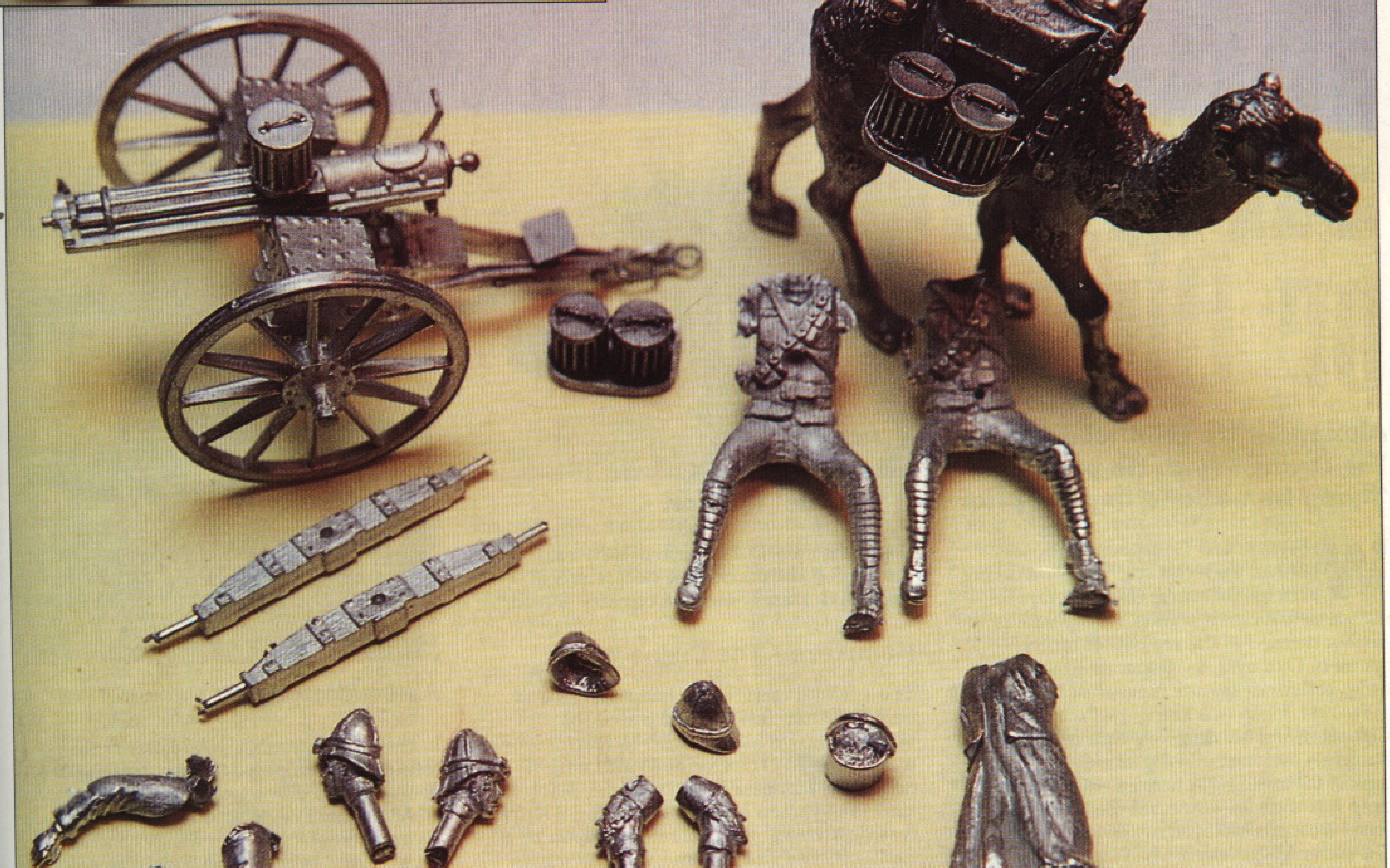

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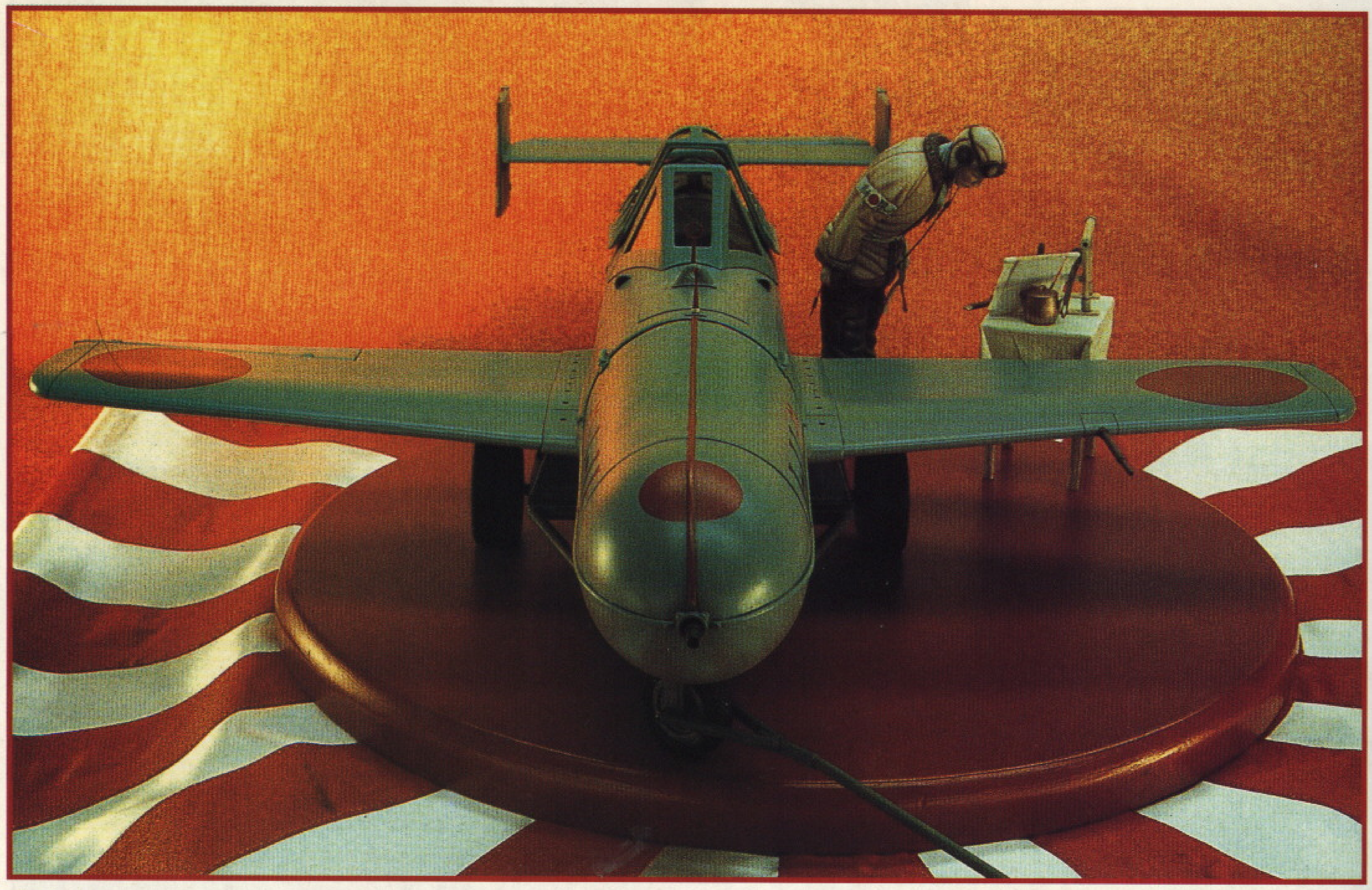


*The finished model on its base with a Japanese flag and warm back lighting to provide atmosphere.*

# KAMIKAZE! or Divine Madness

**Alexander De Leon tells the story of the *Kamikaze* - The Divine Wind. He builds a 1:12 scale Japanese Ohka 'flying bomb' and its pilot prior to a 'suicide' mission**

Webster's New Collegiate Dictionary defines the word *desperate:* "Involving extreme measures in an attempt to escape defeat or frustration". Desperate is further defined in the sea battles off the island of Okinawa, as desperate times sometimes call for desperate measures.

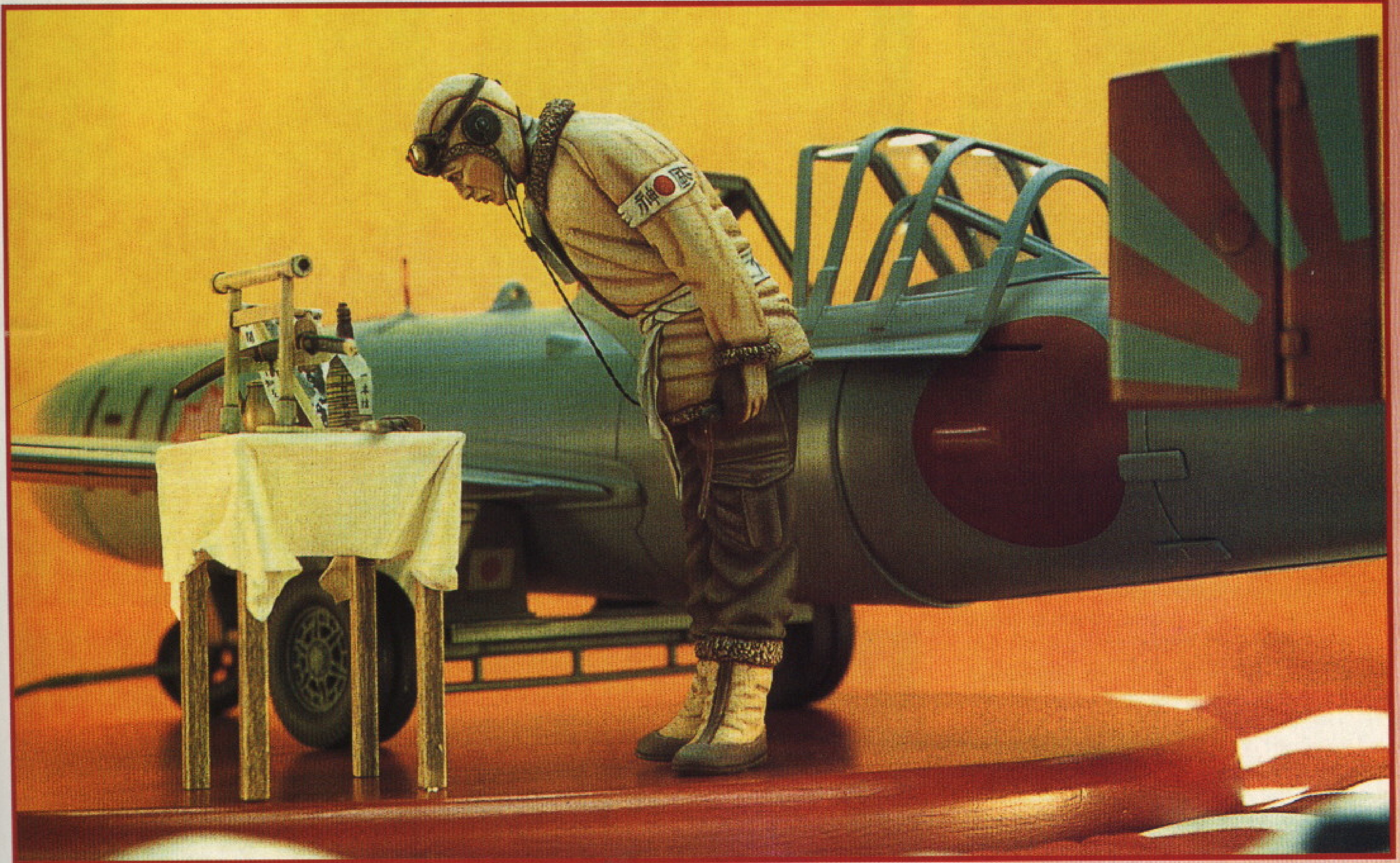
By 1944, Japan was losing the Pacific Campaign and her desperate time called for a desperate measure, utilising suicide tactics against the invading American Navy and one desperate measure witnessed the use of a new secret weapon employed by the Japanese Navy. The secret was revealed when Japan began to use a rocket powered, suicide aircraft, proclaimed *Ohka* or cherry blossom -a designation that symbolised the beautiful pink cherry blossom that soon falls off the tree after blooming. The American Navy, on the other hand, saw no positive symbol in a weapon of such mass destruction and dubbed the suicide aircraft, *Baka* which literally means fool, crazy or mad.

## Kamikaze - The Divine Wind

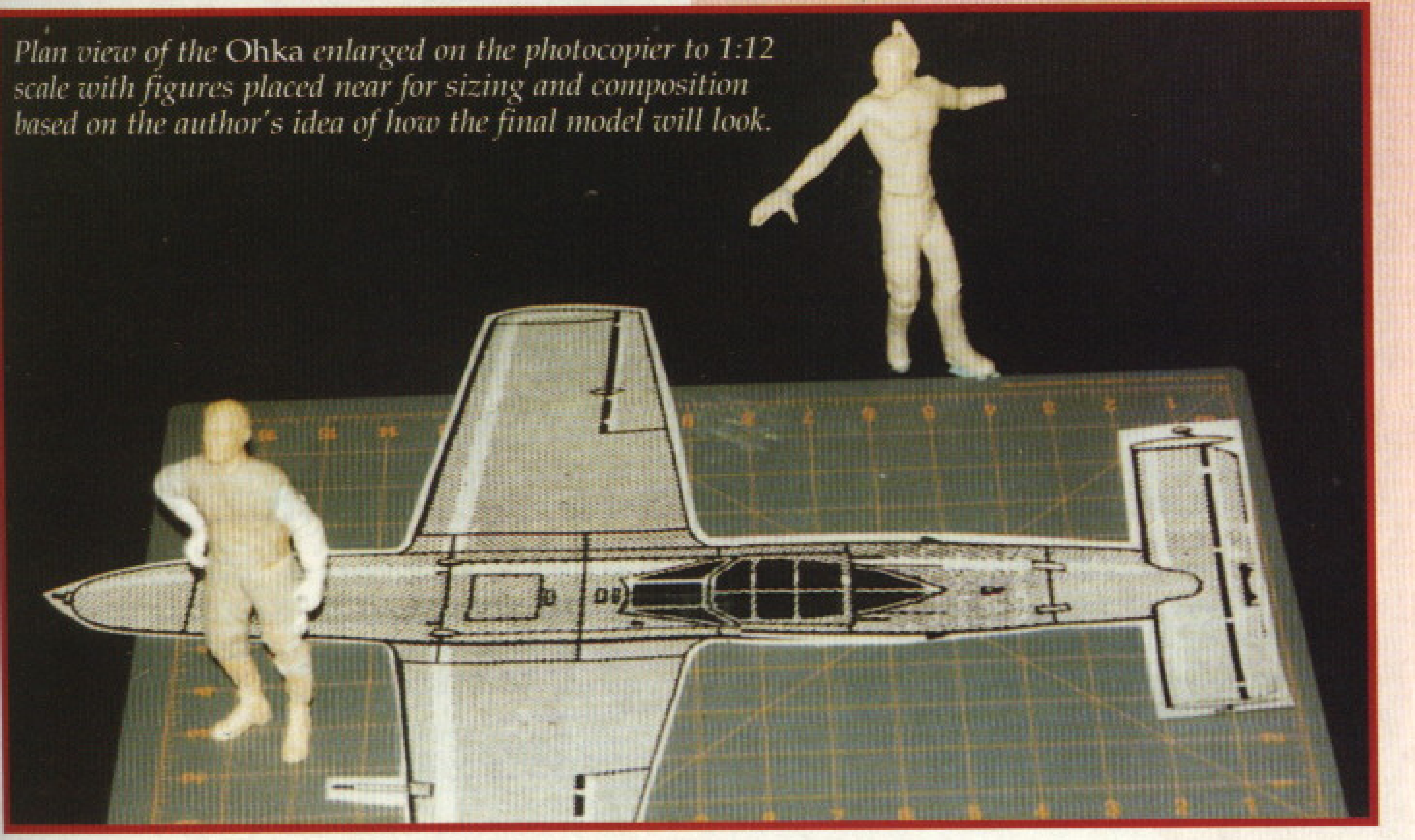
The suicidal tactic of manned planes and boats crashing into Allied war ships became known as *Kamikaze* - a fearful word translating to 'The Divine Wind' with its origins in Japanese legend. In the year 1291, an armada of invading Mongol ships was destroyed off the shores of Japan by a typhoon. The strong wind was 'divine' in saving the homeland of destruction from the ancient Foreign threat. In WWII a new and modern technical 'Divine Wind' was employed to crush the coming invasion of the homeland.

## A new design

In 1944, a Japanese Navy Air Force Ensign, Mitsuo Ohta, proposed that a manned glider-bomb be carried by a twin engine bomber to within reach of naval action and released. Flying short of interceptor fighters and anti-aircraft fire, the mother-plane had a chance to escape, fly back home and prepare for the next mission. Upon release, the *Kamikaze* pilot controlled the winged bomb in a gliding dive and fired a rocket booster to build up a tremendous speed before crashing into allied shipping.



*Low-level view of the model gives a good idea of the size of the* Ohka *in relation to its pilot.*



*Plan view of the* Ohka *enlarged on the photocopier to 1:12 scale with figures placed near for sizing and composition based on the author's idea of how the final model will look.*

The project design was given to the Aeronautical Research Department of Tokyo University for development. By August 1944, the project was named Marudai and construction for the prototype was assigned to the Yokosuka Naval Air Arsenal. In order to fit in the bomb-bay of a *Betty* bomber, the aircraft design called for a small dimension to pack a large destructive force.

## The new aircraft

The length of the *Ohka* was 19.5 feet with a wing span of 16 feet. The cigar shaped fuselage comprised three main sections. The nose section housed a fused one-ton high explosive war-head. The mid-section contained the cockpit and canopy. 'Furnishings' and pilot comfort were minimal in the cockpit with rudimentary flight instruments, a simple ring and ball gun-sight was located on the centre-line, in front of the windscreen, so that the pilot could 'eye-ball' and line up on the target until impact.

## Minimal control

The cockpit had no survival gear, for the ride was only one way. The rear section accommodated the rocket booster pod of three solid rockets with an eleven-second burn to propel the aircraft to an impact speed of approximately 600mph. The aircraft's wings constructed of plywood and aluminium were short and stubby. The pilot had control of wing and stabiliser trim-tabs, but after rocket ignition and at full speed it was doubtful if he had any control at all.

## The symbolic cherry blossom

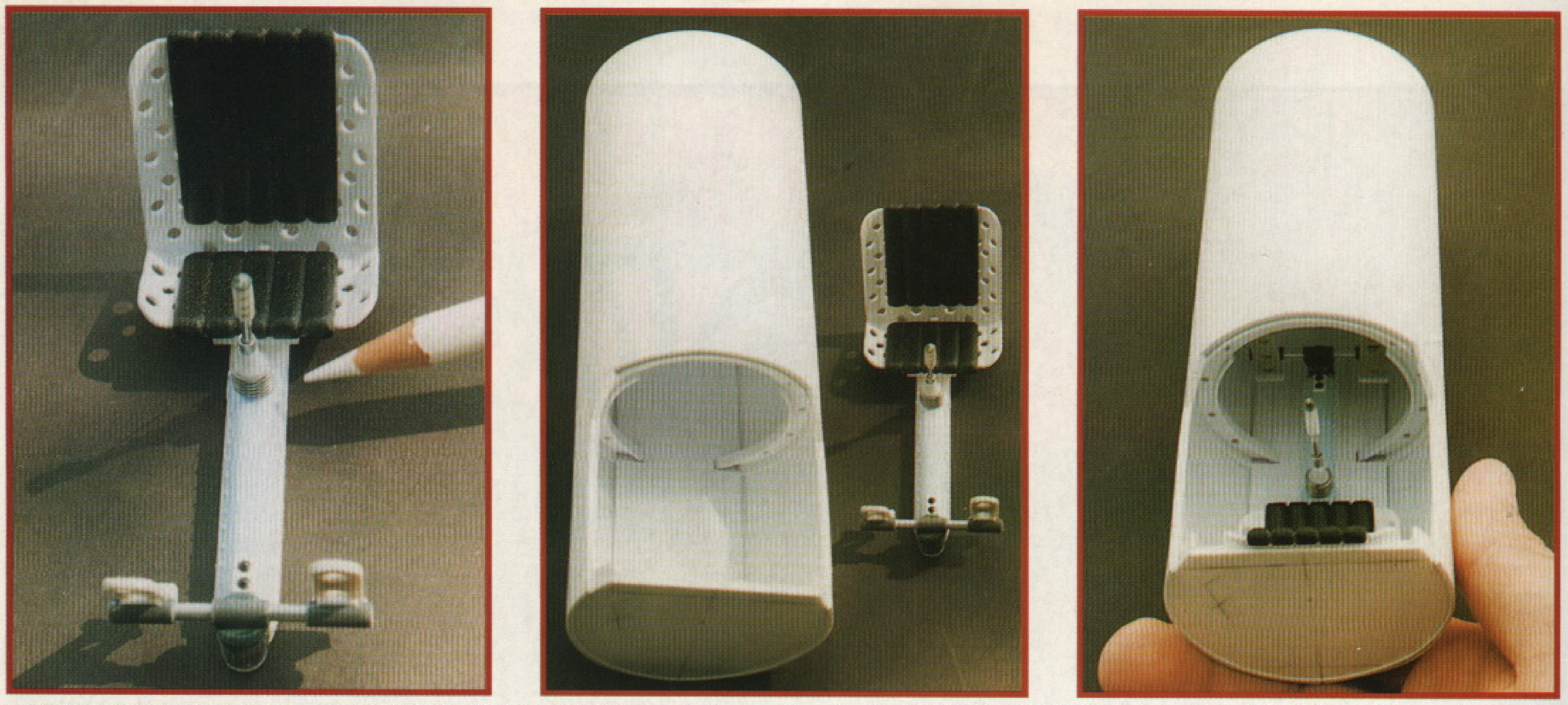
Recruits were trained in *Zeke* fighters flying to altitude then, after shutting the engine off, bringing the aircraft to a dead stick landing. After six months and some 2,000 flying hours the pilots graduated to a single test flight of a re-usable piloted missile, landing on skis, on sand at approximately 110 knots. Upon graduation the new pilots were introduced to their assigned *Ohka*.

## The Divine Thunderbolts

Membership of the Divine Thunderbolts required a religious mysticism and dedication to the task of a *Kamikaze*. Members made visits to the sacred Yashukuni shrine for devotion and offerings. Admiral Soemu Toyoda, Commander-in-chief of the Combined Fleet, personally presented each graduate with a ceremonial white headband *(hachimaki)*, decorated with rising sun and Japanese script. The admiral also presented each pilot a ceremonial *Kamikaze* dirk *(aikuchi)*. The weapon is to be worn into action, unsheathed for the pilot to cut his jugular vein the very last moments before impact, committing ritual suicide, the way of the *Samurai*.

## Bushido

All the training and discipline of the rules of the *Bushido* Cult (the way of the warrior) entered into play. The code of conduct for the *Samurai* (to serve) stressed self-discipline, reverence for nature, magnanimity, simplicity, modesty and unquestioned obedience to the Emperor, a living god. Surrender to the enemy was shameful to the code of *Bushido*. Suicide was regarded as a highly honourable act reserved for the *Samurai*.



*ABOVE LEFT: The pilot's seat, control stick and rudder pedals. The pencil gives an idea of scale. ABOVE CENTRE: Cockpit section of the* Ohka *with the seat assembly. ABOVE RIGHT: Seat assembly located into the* Ohka*'s cockpit section.*

## The Last Samurai

*"Somewhere in the Pacific, a 22 year-old Japanese naval flight lieutenant is assigned to the defence of the homeland. He has only one sacred goal in mind, to be part of the Divine Wind, the last of the* Samurai*. Assigned to, No.1 Cherry Blossom Squadron, 721st Air Group based at Kanoya, the lieutenant anticipates his fateful day. No.1 Squadron members are the choice pilots of the Divine Wind. They will skillfully guide the winged warhead to the target and proudly commit suicide for their living god, the Emperor of Japan. The lieutenant is one of the many volunteers that respond to a highly selective recruiting campaign for the elite unit of rocket aircraft pilots. The unit is called The Divine Thunderbolts* (Jinrai Butai) *and part of the Special Attack Corps also known as* Kamikaze *- The Divine Wind".*

## The elite ...

*"Of the hundreds that volunteered to be members of the elite squadron only a few last to the final examination. At first, all married recruits are asked to leave in processing. Secondly all only sons of a family are excused. Finally sons with only one parent are asked not to participate. The handful of recruits remaining are given membership to the elite Divine Thunderbolts. Members swear an allegiance not to marry, but to wed themselves to their fateful kamikaze task.*

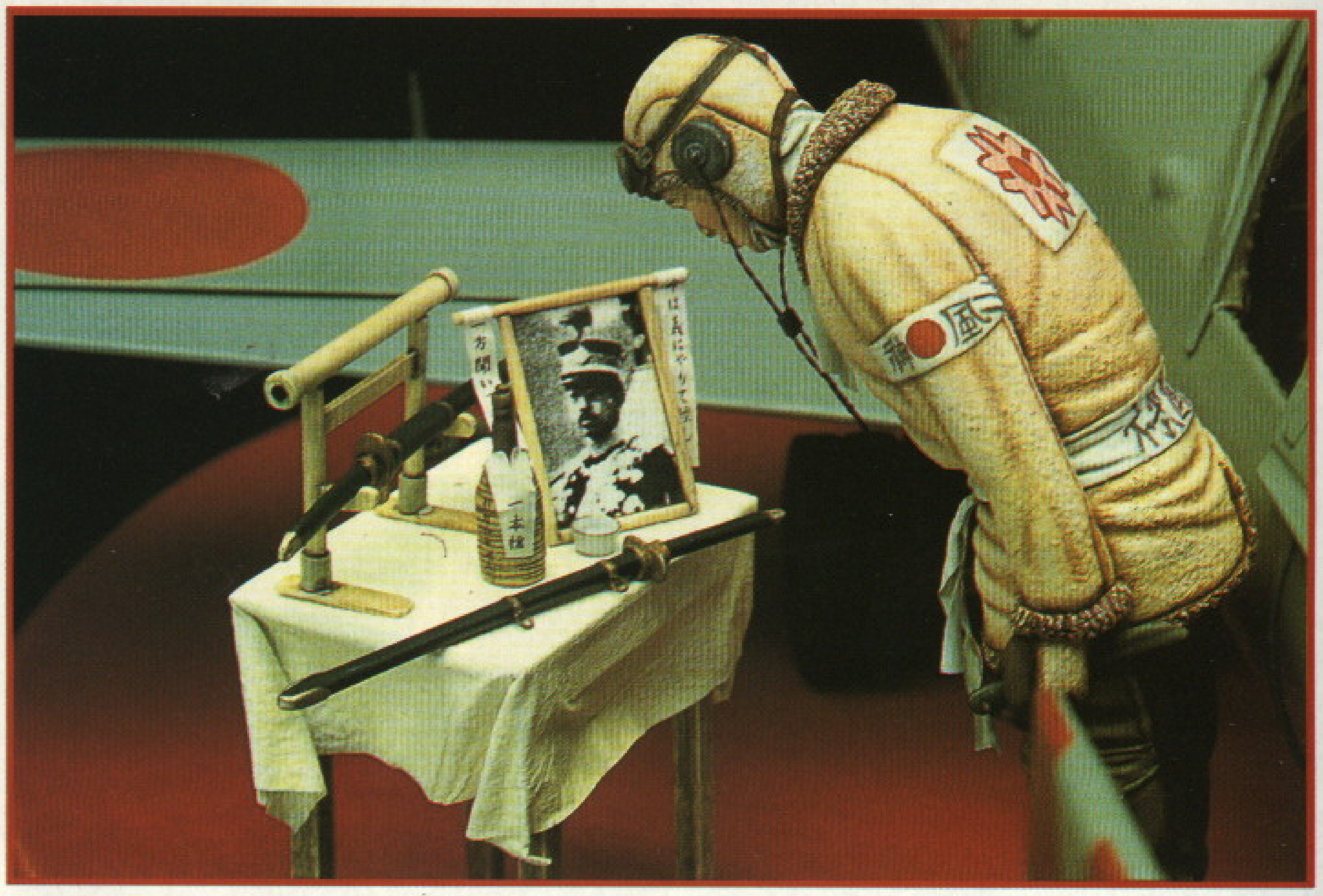
*Members also swear off any heavy drink and only sip or substitute water for the last ceremonial cup of* sake *(rice wine) before take off."*

## The last mission for the last Samurai

*"Early on 12th April, 1945 the young lieutenant is interrupted as he does the daily mopping of the quarters. That fateful morning he receives orders to participate in the next attack mission against U.S. warships stationed off Okinawa."*

## Dressed to kill

*"The ritual end of the life of purity for the* Kamikaze *begins with the donning of the flight uniform. Bare necessary clothing and no safety or survival equipment required, (the mission is one way). As the other Divine Wind pilots had done before him, the next* Kamikaze *picks his dress freshly laundered and still drying on the line. How more symbolic than to go into battle fresh and pure.*



*The last* Samurai *will not cheat final death, but will have to cheat the cold as he rides to the destination point in the bomb bay of the* Betty Bomber*. The winter issue brown canvas flight suite is worn over the pure and clean white uniform. Fur-lined flight boots, gloves and jacket made from naturally tanned and un-dyed sheepskins adorn the young* Kamikaze*. The jacket is embellished on the back panel by a symbol of the pink cherry blossom. Each jacket sleeve bears the red rising sun and Japanese script the divine wind.*

*Around the waist, a thousand-stitch cloth* (sennibari) *is fastened. The wrap is worn as a talisman to bring good luck and avert evil. One thousand young girls from the homeland are asked by the pilot's mother to sew in one stitch each and say a prayer. The ritually decorated cloth is believed to be bullet-proof. A fur-lined issue flight cap equipped with communication chords and the kamikaze dirk clutched in the left hand completes the uniform as the last* Samurai *is now dressed to kill."*

## Final ritual, final bow

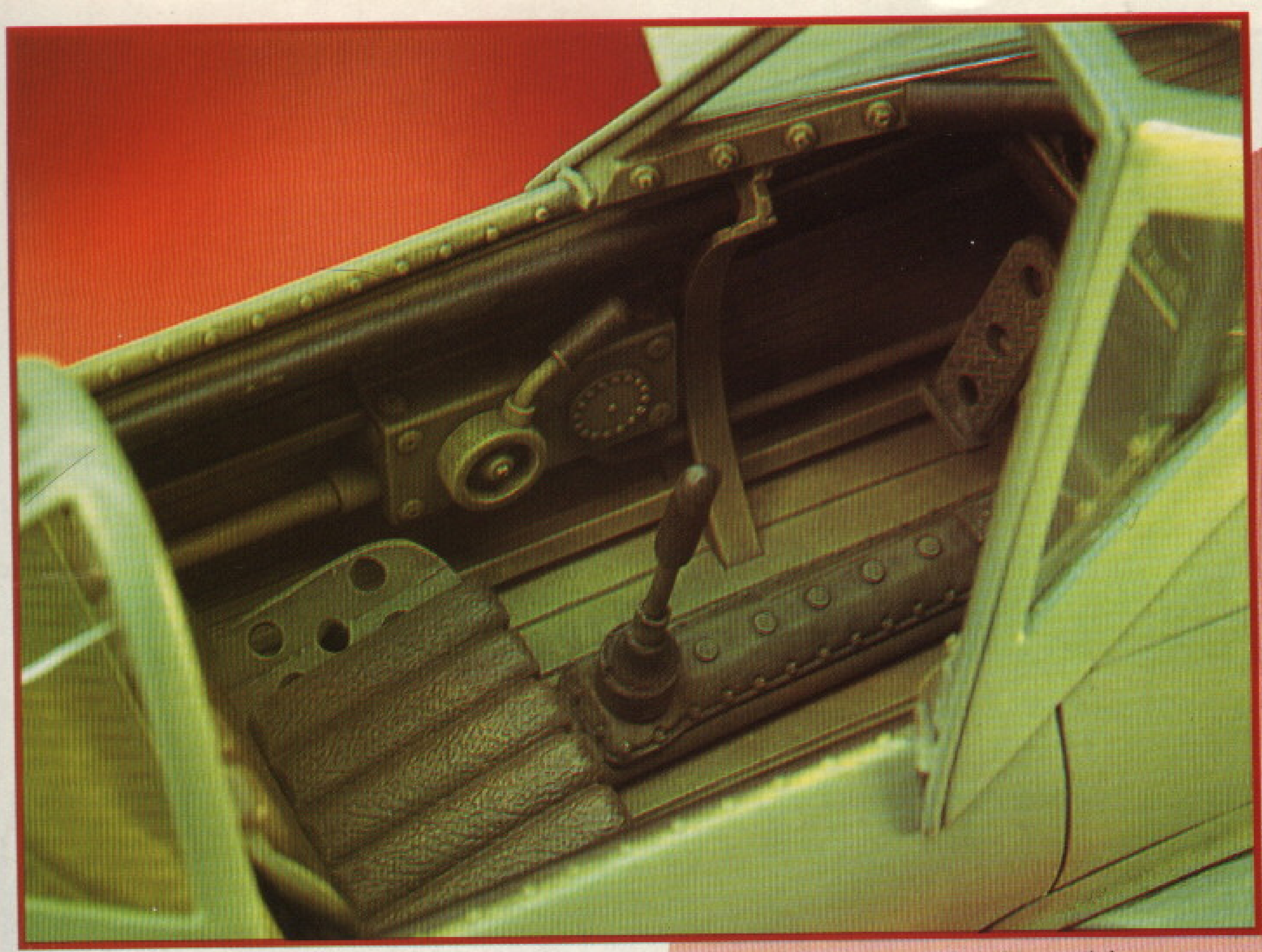
*"The Ohka pilot celebrate the final ceremonial before flight. A linen covered table is laid out with* Shinto *shrine and* Samurai *swords. A framed photo of the emperor adorned with patriotic script stands in sacred honour. A bottle of Japanese sake is ready to be poured into the gold rimmed china cup. With dirk in hand, the* Kamikaze *takes a sip of the sake and then humbly bows to the Emperor. This will be the last nod to the living god."*

## Armed for final action

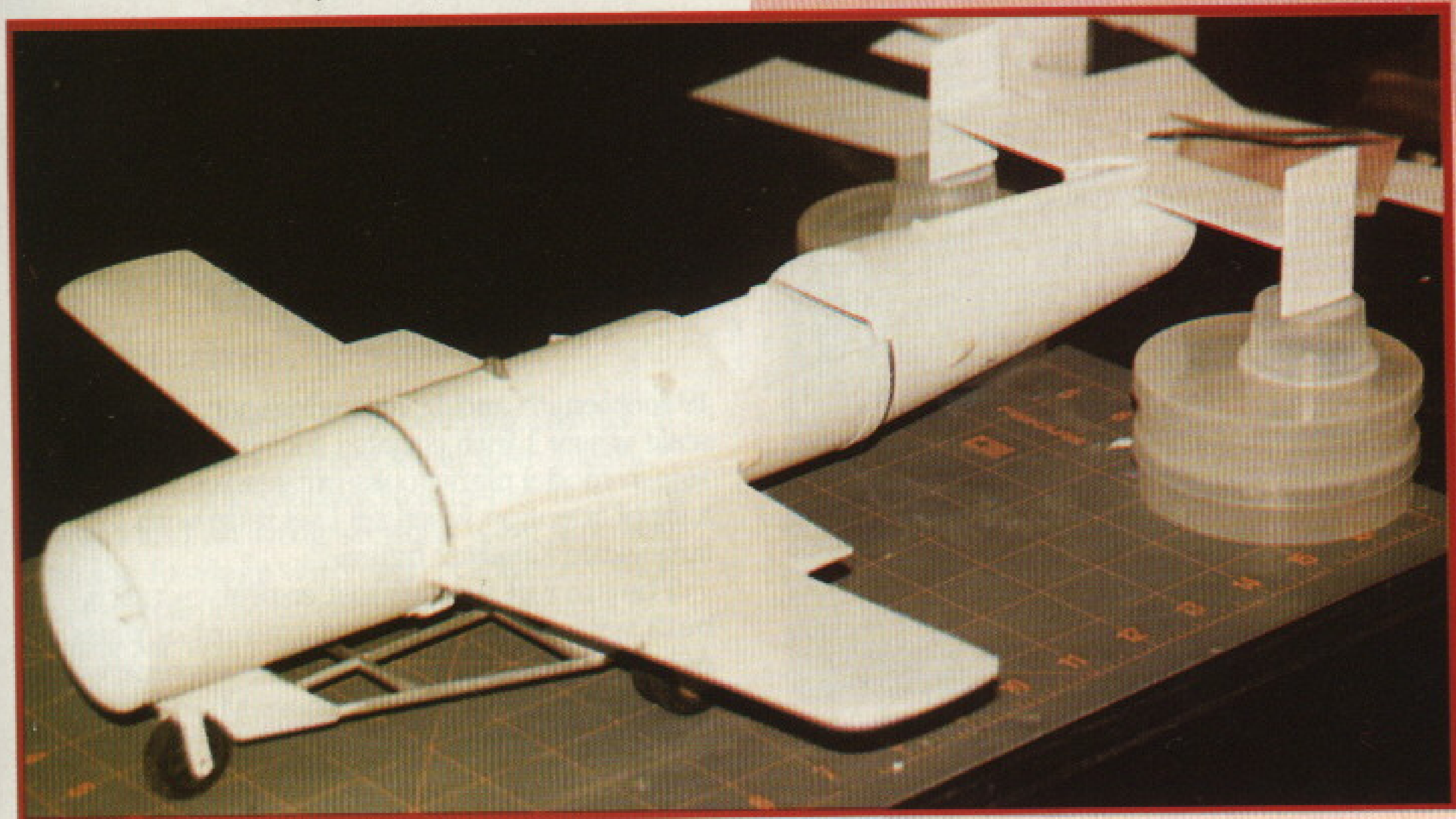
*"The ground crew tows the 2,300 pound rocket powered aircraft on a three wheel dolly to the flight-line. The* Ohka *is positioned under the* Betty *bomber's belly. A hook and steel cable is lowered and attaches to the hard point located in front of the canopy section. A ground crewman carefully hoist up the monster until secured in the bomb bay. The mother plane and piloted bomb now set and armed for final action."*

## Kikusui No. 2

*"Standing on the flight-line, air crews and Ohka pilots gather and go over plans for the assigned mission named* Kikusui *No. 2 (chrysanthemum second mission). The latest mission assembles eight mother planes with eight piloted* Ohkas *attached. Approximately 80 Kamikaze and 100 Japanese fighter planes will escort the flying armada. American Navy, Task Force 58 situated off the northern east and west coast of Okinawa is targeted for destruction."*

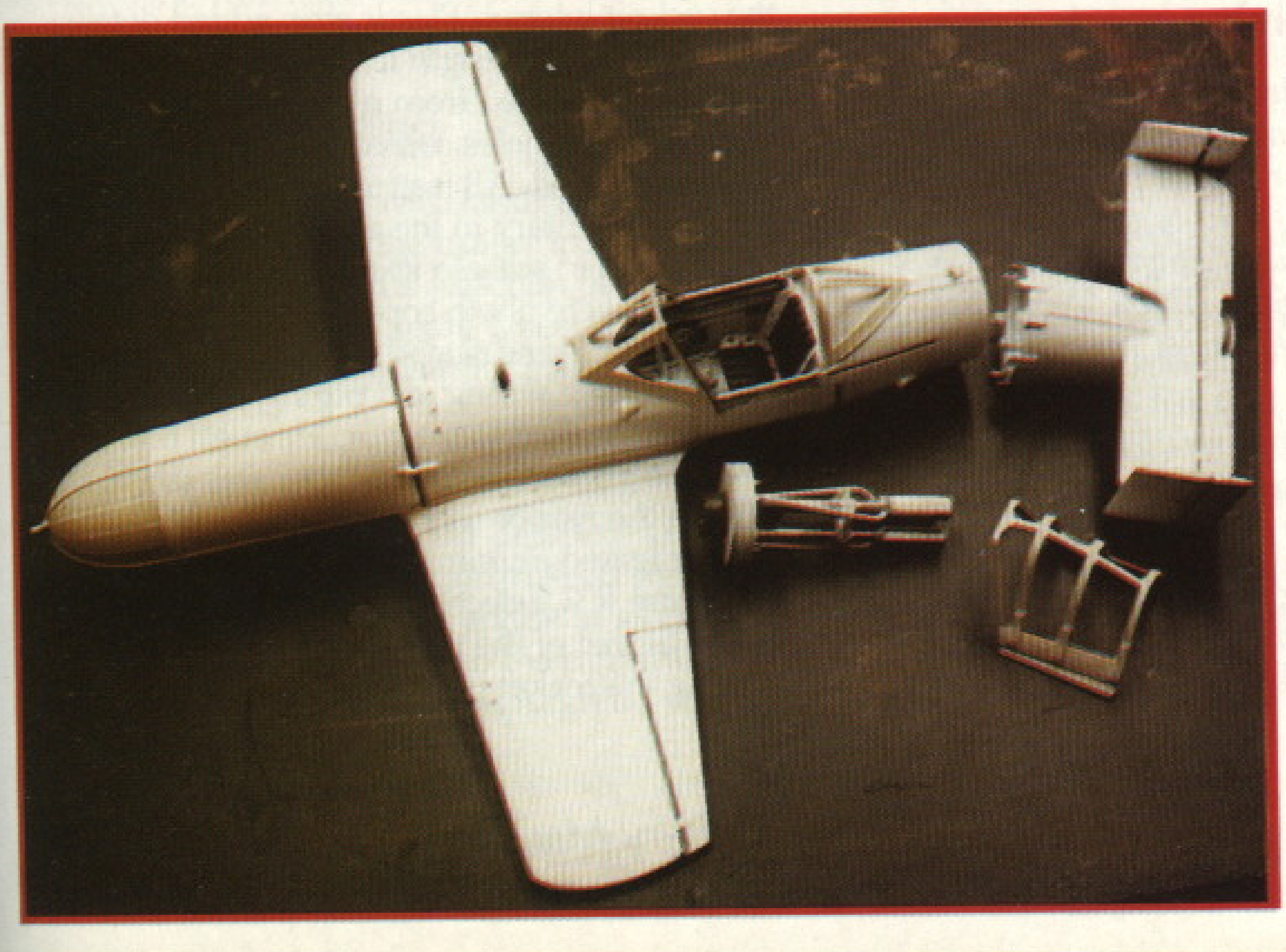


*ABOVE: The model's open cockpit shows rudimentary seat, control column and rudder pedals.*



*ABOVE: The aircraft takes shape with the fins of the empenage supported during construction.*

*ABOVE: The small tricycle trolley built from styrene sheet and kit parts supports the* Ohka.



*LEFT: Front half of the aircraft assembled showing the removable tail section, rocket motor and sliding canopy.*

## Remember No. 1

*"Before leaving the flight-line the crews remember the first mission,* Kikusui No. 1 *that occurred on* 21st March. *Mission No.* 1, *consisting of* 16 Betty bombers *with* Ohkas, *and* 55 *escorts was sent against an American Naval Task Force. Navy Hellcat fighters from aircraft carriers,* Hornet *and* Belleau Wood *intersected* Kikusui No. 1, *some 60 miles from the objective. The American interceptors blasted all the heavenly laden and low lumbering mother planes out of the sky. Not one* Ohka *was launched. Only a few escorts survived to make it back to base and report on the fiasco. All the crews for the second mission desire for a more dramatic outcome than the first action."*

## Final salute, into the wind

*"The air crews are given a salute and thumbs-up, then shake hands with ground personnel as they run to the waiting ready aircraft. On the tarmac towards the planes, the crewmen run past a flying pennant inscribed with five ideographs of the philosophy,* hi ri ho ken ten. *The saying literally translates to: Injustice cannot conquer Principle, Principle cannot conquer Law, Law cannot conquer Power, Power cannot conquer Heaven. On to the planes and then taxing off the* Kamikazes *are chased by the ground crews fanatically waving and cheering '*Banzai... Tennoheika ...Banzai*' ...Into the wind the suicide squadron is airborne, and like the cherry blossom the air group will bloom, fall off the tree and die. A destiny that is symbolic indeed."*

## A last request

*"In route to the target area the* Ohka *pilot gives notice to the* Betty *crew that he is going to take a nap. His final request, be woken up 30 minutes prior to arrival off the target zone".*

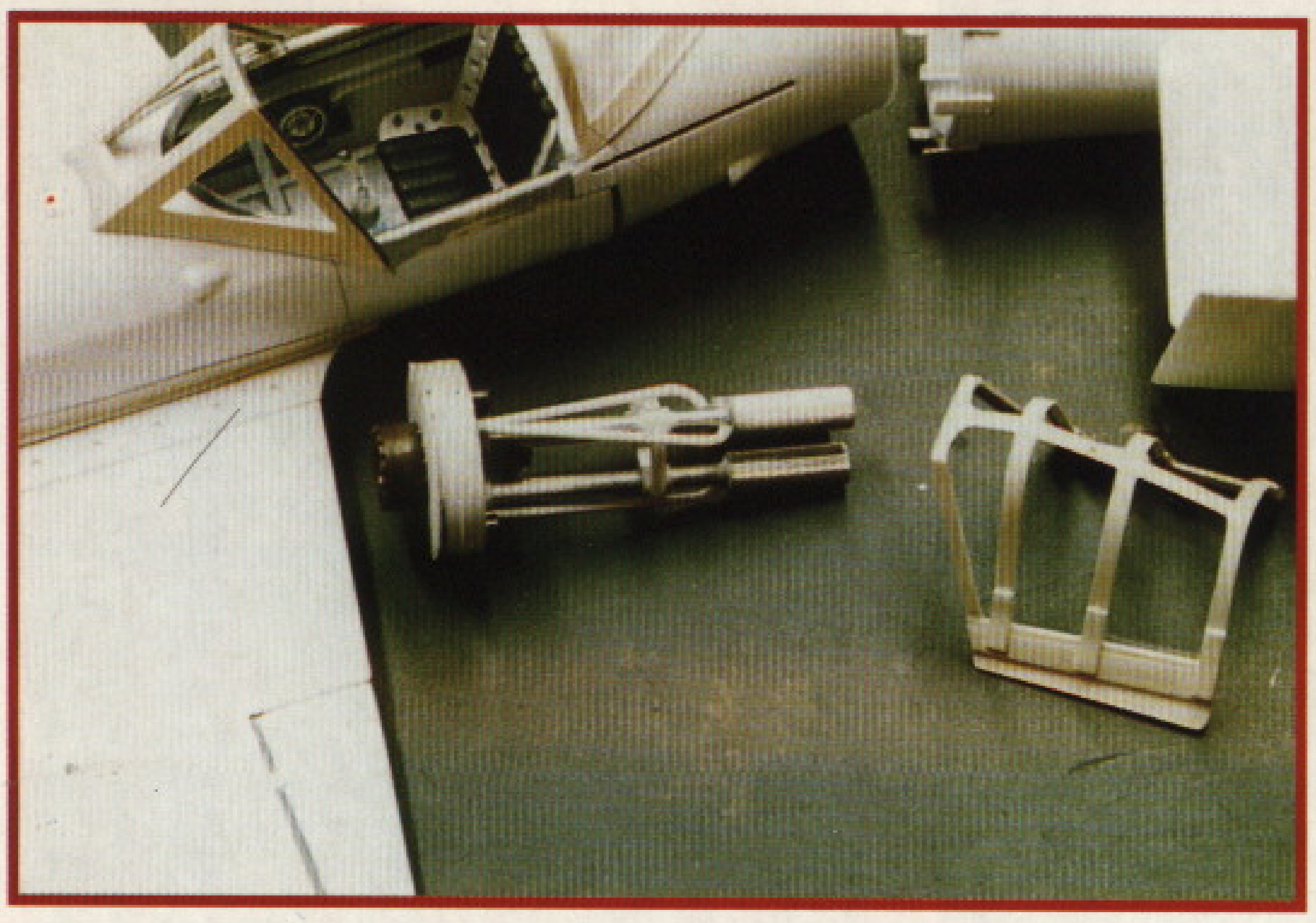
## A last sleep, a last dream and the final awakening

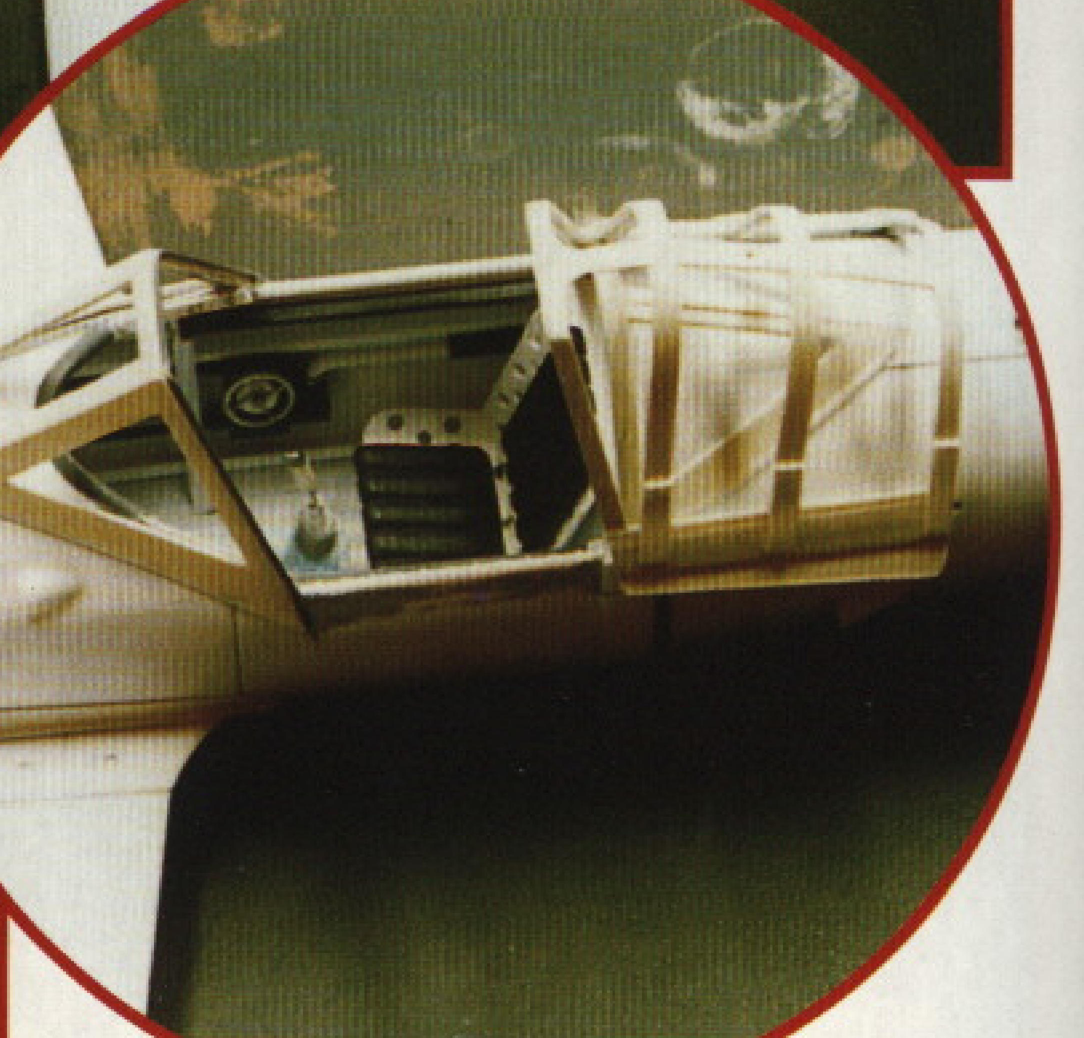
*"Laid out in the rear of the bomber are a few sacks and the young pilot falls asleep to the humming of the planes radial engines. Soon, he begins to dream during his final short slumber. A foggy illusion commences. At first, a last toast with the other* Kamikaze *pilots, then a farewell speech is given by the unit commander: 'And so, valiant comrades, smile as you go...There is a place prepared for you in the esteemed presence of your ancestors...guardian warriors...samurai of the skies.' The vision continues with the group of fellow pilots are standing in a circle.*

*Each* Kamikaze *has his head shaven and adorned with the white headband with red rising sun. The circle of comrades start to sing the battle song: 'The Airman's colour is the colour of the cherry blossom. Look, the cherry blossoms fall on to the hills of Yoshino. If we are born sons of the Yamato race, Let us die fighting in the skies'. The dream becomes bizarre and disturbing as the circle of pilots un-sheath the* Kamikaze *dirk and each person hacks his little finger off, One by one, around the circle, the bloody task repeats. It is now the lieutenant's turn for the ritual dismemberment... With the blade exposed and ready to cut ...the dream is interrupted and the* Ohka *pilot is awakened gently by the mother plane commander."*

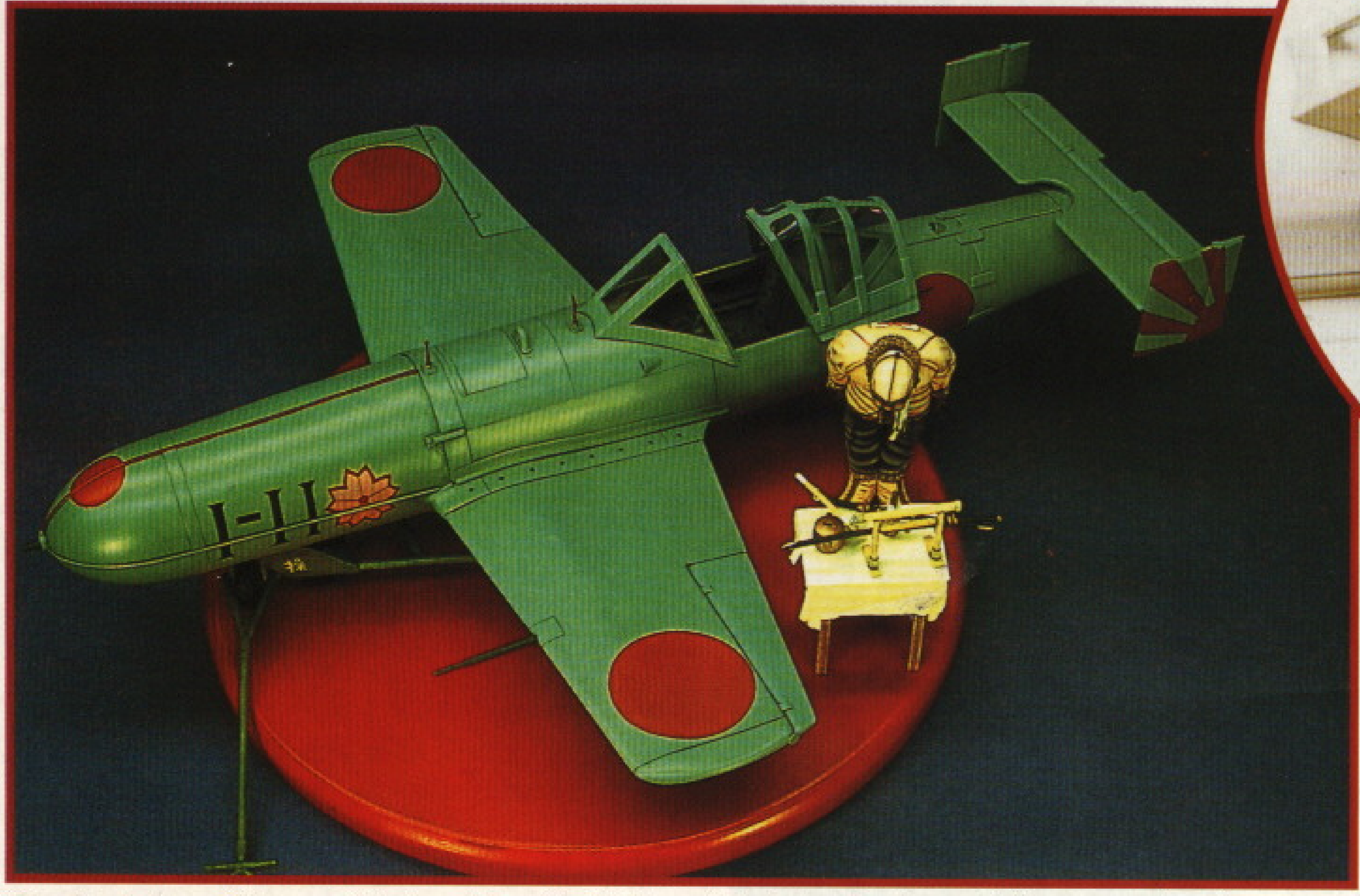
## Sayonara

*"The commander greets, 'it is time'. The rested kamikaze smiles and remarks, 'Time passes quickly, doesn't it?'. With a final* sayonara *the young pilot shakes hands with the aircraft commander, then climbs through the bomb bay into the cockpit*





*ABOVE LEFT: Rocket motor assembly and cockpit canopy. ABOVE RIGHT: Assembled* Ohka *before painting. RIGHT: Close up of the cockpit area with the canopy fitted on its rails.*



*Overhead view of the completed model on its highly polished circular base, which was produced as described in the text.*

*of the rocket powered glider. Bomber crewmen slide the canopy forward and padlock it. No chance is given for second thoughts and bail out of the mission at the last mission at the last minute. Inside the bomb bay in front of the canopy hang a signal red-light/green-light. The* Ohka *pilot plugs into the communication box and is now in contact with the commander. He clutches the release handle and anticipates the final instruction and green light."*

## At home base

*"Back at home base, Japanese operation is monitoring radio transmissions from the air group. With the signal, 'Enemy fighters sighted!'. The radio room grows more tense as time begins to drag on with silence. After a few moments, the radio room is relieved with a welcomed surprise, 'We have avoided enemy fighters'. Initial success at last, but no time to savour in the idea, for messages began to pour in from the air group. 'Standing by to release* Ohka. *Targets are battleships!' ..."*

## In the air - release!

*"Back at the air armada, anxiety is over as the mother-plane commander flashes the green light and instructs 'let go!'. Like a beautiful pink cherry blossom falling from the tree, the* Ohka *falls from the mother ship. At a release altitude of 6,000 metres it wavers at first but steadies to a 50° glide and picks up speed."*

## Last prayers, last blessings

*"The target is at 18,000 metres and closing in fast. The barbed wire entanglement of navy anti-aircraft is darkening the sky and waits to caress the* Kamikaze. *Time to fire the rockets and get past the deadly curtain of shrapnel. Ignition and the aircraft bolts to a speed of almost 600 miles per hour. It takes both hands on the stick to control the now radical acting aircraft. The short stubby wings begin to vibrate and appear that they might just sheer off. Past the defensive screen the* Ohka *continues on it's rapid path. The pink cherry blossom painted on the fuselage, now just a blur. It is time for this last* Samurai, *to join his ancestors."*

## Surviving the divine madness

*"On board the intended American target, many prayers are said, but no one is quite ready to join anyone's ancestor. All ship personnel are committed to survive, fight to the last round and repulse all suicidal attempts against the fleet. For them, it is not a Divine Wind that blows, but a Divine Madness."*

## The Model - constructing the aircraft

A three-view drawing of the *Ohka* was found in the book *The Divine Thunder.* The scale drawing was close to the actual aircraft's dimensions of a 19 foot length and 16 foot wingspan. In 1:12 scale where 1 inch equals 1 foot the 19 inch x 16inch model plane looks impressive and it gets a lot of attention when set I set it up with the large-scale *Kamikaze* figure.

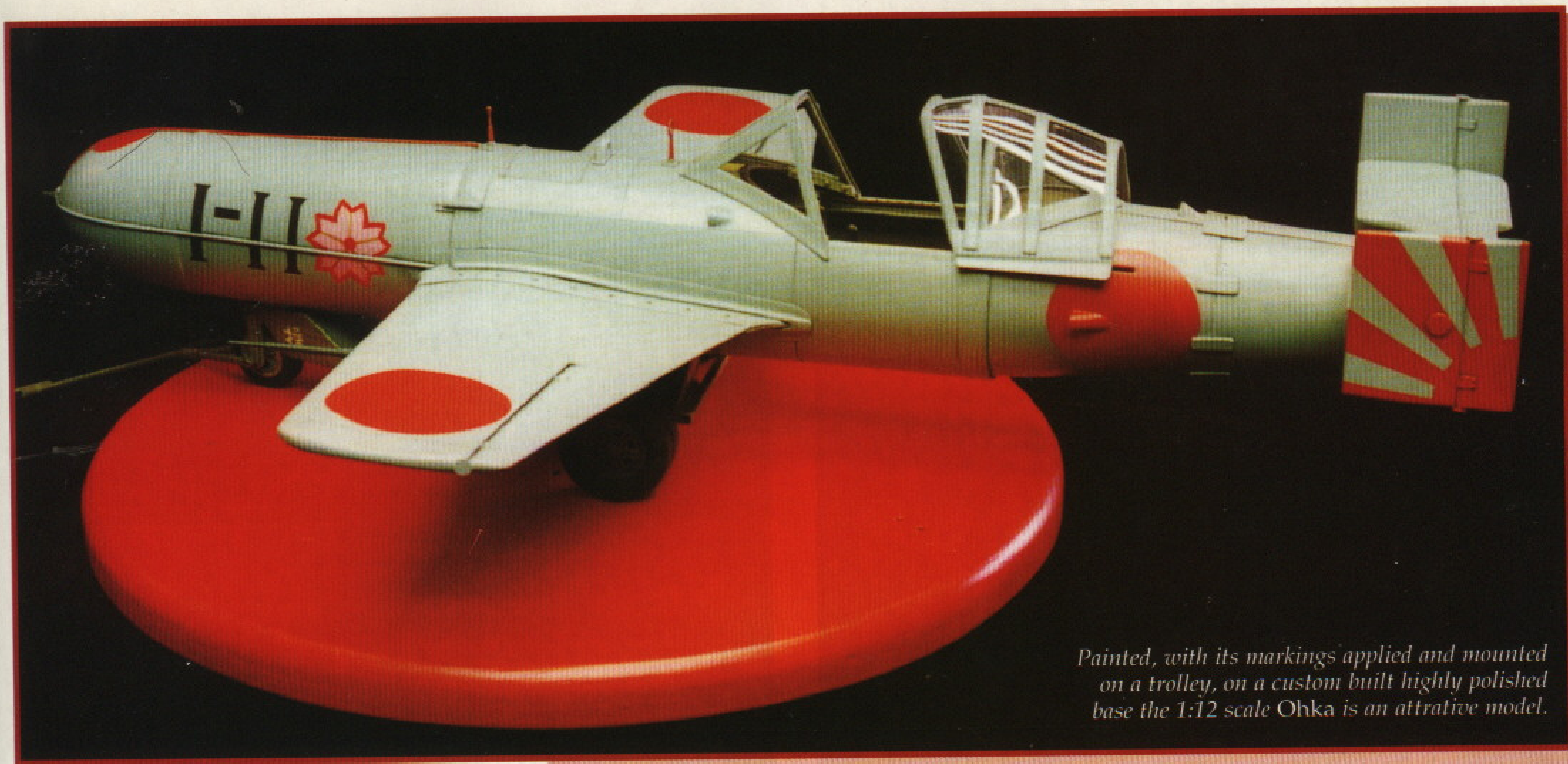
The aircraft was almost entirely scratch built with just a minimum amount of parts used from the spares box. Sheet styrene was used throughout construction. Main subassemblies included: wings, nose, cockpit and rear sections.

## Fuselage assembly

Bulkhead sections were cut to scale with styrene sheet shaped around to form fuselage sections. Nose, cockpit and rocket sections were fabricated to achieve the different tapers and angles of the fuselage. The front, or warhead section, tapers to a cone shape with the nose weighted with lead and roughly shaped with epoxy putty, The nose was then turned and shaped, using a hand drill as a simple lathe. The cockpit section was formed around two similar sized, round bulkheads to form a simple tube of styrene. The cockpit opening was laid out at the top centre of tube and cut free.

Attention to detail was now concentrated on the cockpit interior. Plastic strip added detail plus structural strength to interior. A cockpit seat was fabricated from plastic and detailed with lightning holes drilled out and a padded back rest added. All instruments and controls were rudimentary in the actual aircraft and reproduced to scale in the model. Instrument dial faces were photo copied from radio control aircraft decals and scaled to 1:12. Further detail included scale wiring and piping and miniature bolt heads added to interior. Through trial and error the proper angle and taper was fabricated to form the rear or rocket section.

Corrugated aluminium sheet taken from the miniature R.R. selection was glued to the inside tunnel of the rocket section. It's possible to view the rocket pod through the rear open-



*Painted, with its markings applied and mounted on a trolley, on a custom built highly polished base the 1:12 scale* Ohka *is an attrative model.*

ing, so it is necessary to scratch the rocket assembly. Parts from the spares box and styrene tubing were used to construct the three rockets. Again, more corrugated sheet was used to detail the exhaust cones not forgetting to further detail this area with fine wire and miniature bolt heads.

## Wing assemblies

All wing assemblies were built up airfoils constructed from styrene sheet with plastic strip and tubing sandwiched in-between. The forward and aft wing sections were mounted to on the fuselage with correct dihedral and detailed with rivets, counter-sinking and hinging for wing tabs.

## The cockpit canopy

At first, construction of the the cockpit canopy seemed to be a complicated operation, but it was to late in the game to just drop everything and call it quits! First, styrene strip is bent and shaped to form the bird cage and care was taken to glue together the plastic pieces. Further bent sections of strip were glued to the inside of the frame for reinforcement. Templates were cut for the canopy glazing and laid out on clear themoform. Care was taken not to mar or scratch the clear surfaces as they were formed to the inside of the frame and glued with five-minute epoxy.

## Final details

Panel lines were laid out then scribed in with special tool. Aluminium tubing was used to fabricate the war-head fuse, pitot tube and gun sights. Rivet detail was the final touch.

## Trolley construction

The *Baka* was not fitted with landing gear so it was necessary to make the trolley to accompany the aircraft. Back to the selection of aluminium tubing, plastic card, spare wheels to scratch build the trolley. Simply magic, isn't it!

## Painting

The aircraft was painted and detailed with an airbrush. The interior was airbrushed light green with the exterior in a shade of silver blue. Weathering was kept to the minimum. Panel lines and rivets were highlighted with black ink. All markings were masked with frisket and airbrushed. The aircraft was then given a final finish of semi-gloss varnish.

## Figure construction

My collection of 1:12 figure torso parts was rummaged through to complete the pilot figure's pose. Epoxy putty was used to sculpt the flying uniform parts. Thin metal sheet was used to form the waist cloth. The headphone cords made from fine wire and the Kamikaze dirk held in left hand made up from scratch. The figure was given a white primer coat and left to dry. The figure was painted with artists' oils blending the face skin tones with a brush and painting and blending the uniform colours with a turbo driven air-brush.

Because of figure's relatively large scale it was possible to use an air-brush in the painting process. Final detail included hand-painted Japanese script and cherry blossom symbol on figure.

## Table and accessories

Wood pieces were stained and glued to fabricate the field table. Tissue soaked in a solution of white glue and water was draped for the table cloth. All the accessories were scratch built from plastic strip and aluminium tubing. The table cloth was given a wash of linen coloured acrylic paint, shaded and highlighted to emphasise the cloth's drape. The table items were painted and weathered accordingly with the sake cup given a hint of a gold rim. A photo of the Emperor was found and reduced on the photocopier. The *Samurai* swords were scratch built, painted and detailed with gold paint.

## Composition

To emphasise the symbolic theme of the diorama I decided to pose the aircraft, figure and table on a round disk or Japanese *Hinomaru*. A simple pine board was cut in a radius and given a routed edge. The disk was treated with wood sealer, sanded and given generous layers of red acrylic paint. When dry the disk was further buffed and rubbed down to complete the finish.

The main components are pegged and attached in their proper positions on the red disk for my interpretation of The Divine Madness.

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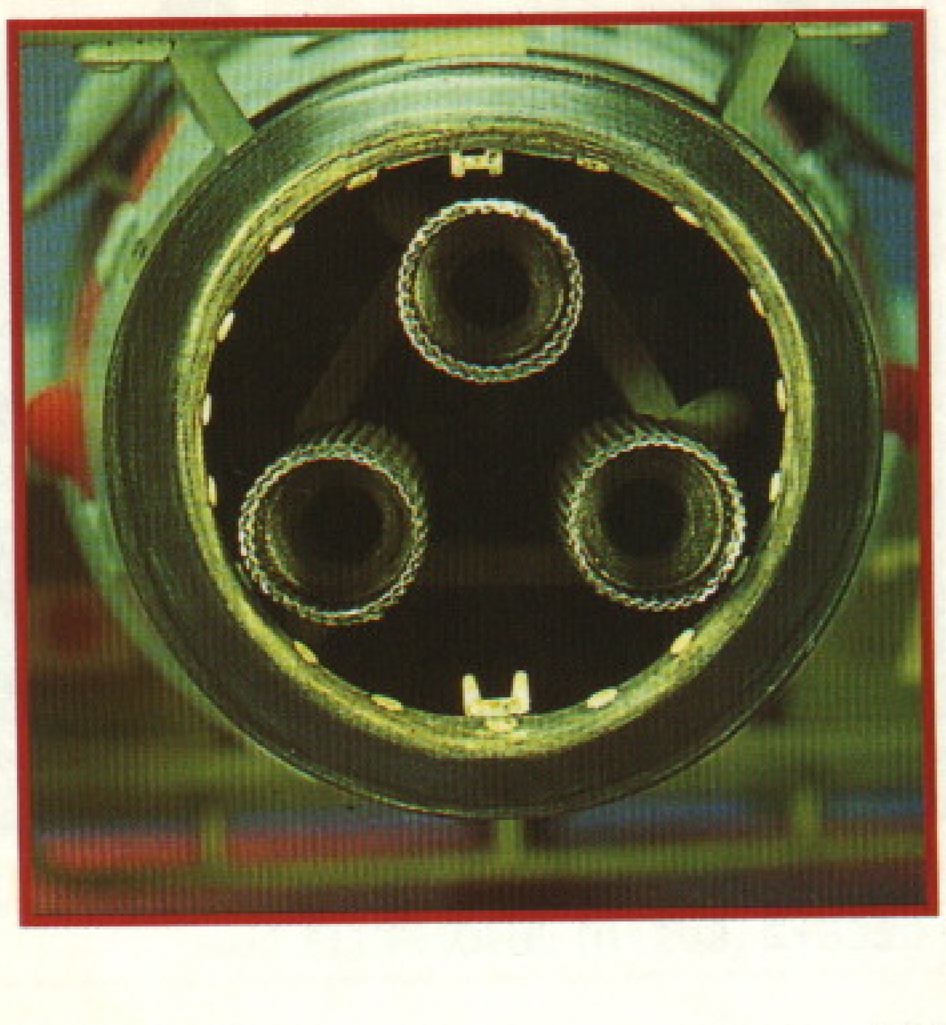

# SOLDIER BOX

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**TOY SOLDIERS**

*Drumbeat Miniatures produce these attractive figures of the Charleston Zouave Cadets 1861.*

*Soldier On have added the 69th New York (Fighting Irish) 1862 to their range.*

*Bulgarian infantrymen of the Balkan Wars 1912-13 are now available from Monmouth Metal Toys.*

*Soldier Pac have reproduced this Britain's casting of Her Majesty the Queen taking the salute at Trooping the Colour.*

## Soldier On

Soldier On (76 Balbutcher Lane, Ballymun, Dublin 11, Ireland) have added a set of figures depicting the 69th New York (Fighting Irish) 1862 to their range. The officer is in a casual pose and the other ranks are at attention. A boxed set of six figures (an officer or warrant officer and five other ranks) costs £IRL48, payment by cheque or postal order only please. Postage and packing is 10% UK and EC, 25% elsewhere. For a list of stock send two IRCs. Soldier On are also looking for stockists world wide - trade enquiries by fax only to 8427004.

## Soldier Pac

Soldier Pac (2 Holland Drive, Muxton, Telford, Shropshire TF2 8RA, tel: 01952 676822) have added a rather nice figure of Her Majesty the Queen to their range of Britain's castings. The Queen is depicted in uniform and mounted on her horse Burmese, taking the salute at Trooping the Colour, her annual birthday parade on Horseguards. The casting is £4 and UK postage and packing is 10%, minimum £1.

## Charleston Zouave Cadets

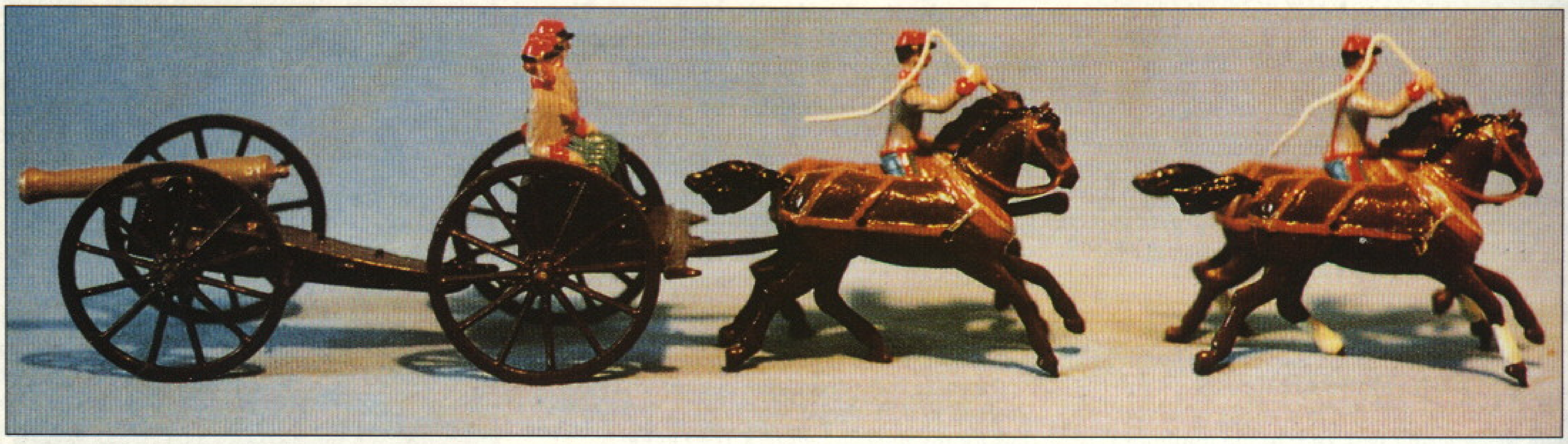
Drumbeat Miniatures (4 Approach Road, Ramsey, Isle of Man IM8 1EB) now have a most attractive boxed set (Ref TYN091) featuring the Charleston Zouave Cadets 1861 in full dress. This very eye-catching set consists of an officer and four splendidly attired men marching along. The boxed set of five figures is £28.50, a single painted figure in a clear bag is £4.10 and an unpainted casting £2.10. Postage and packing is 10%, with 20% for mail order.

## Balkans Wars

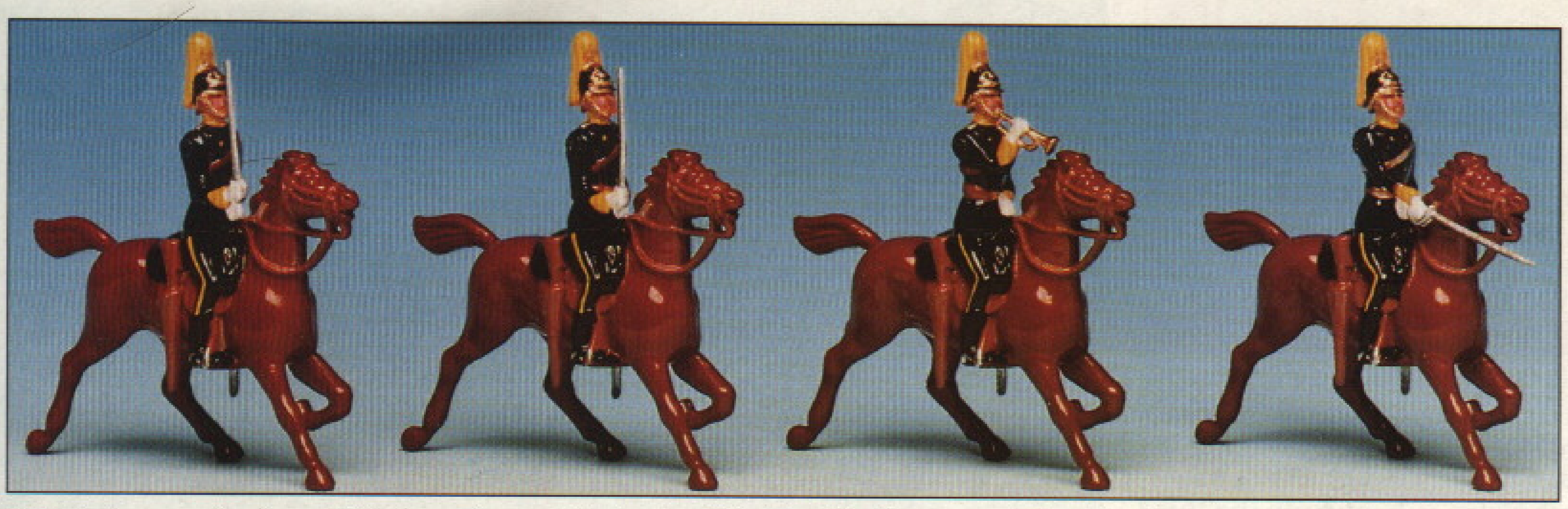
Monmouth Metal Toys, (Retreat House, Dorchester Road, Broadwey, Weymouth, Dorset DT3 5LN) have started a new 'Conversion Range' of traditional toy soldiers. Using bodies, head changes, packs, etc., figures are produced to supplement the existing Britain's types. So far, attention has been concentrated on the Balkan Wars 1912-13 and the range includes a selection of Bulgarian army types. Thus far there are field artillery crews, mule batteries, infantry at the slope, trail, ready, prone, running and charging with fixed bayonet. These are supplied as boxed sets of eight infantry figures for £35 plus £1 postage and packing, or five cavalry figures for £50, or an artillery piece and four gunners for £40, both plus £2 postage and packing.

## The Attack on La Haye Sainte

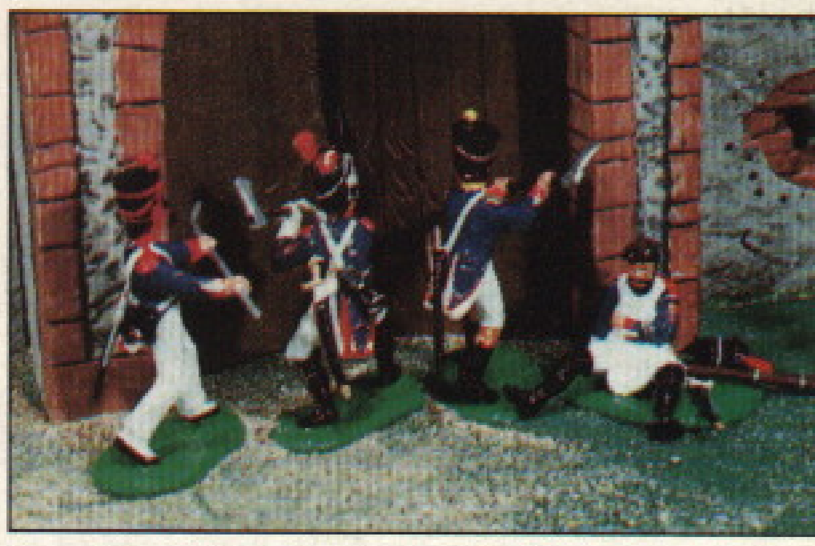
Trophy Miniatures Wales Ltd (Unit 4, Vale Enterprise Centre, Hayes Road, Sully, Penarth, South Glamorgan CF64 5SY, tel: 01446 721011) celebrate their Silver Jubilee with a numbered boxed edition entitled, 'The Attack on La Haye Sainte'. Set in an incident during the battle of Waterloo 1815, the edition features the French attack on the farm house of La Haye Sainte, in



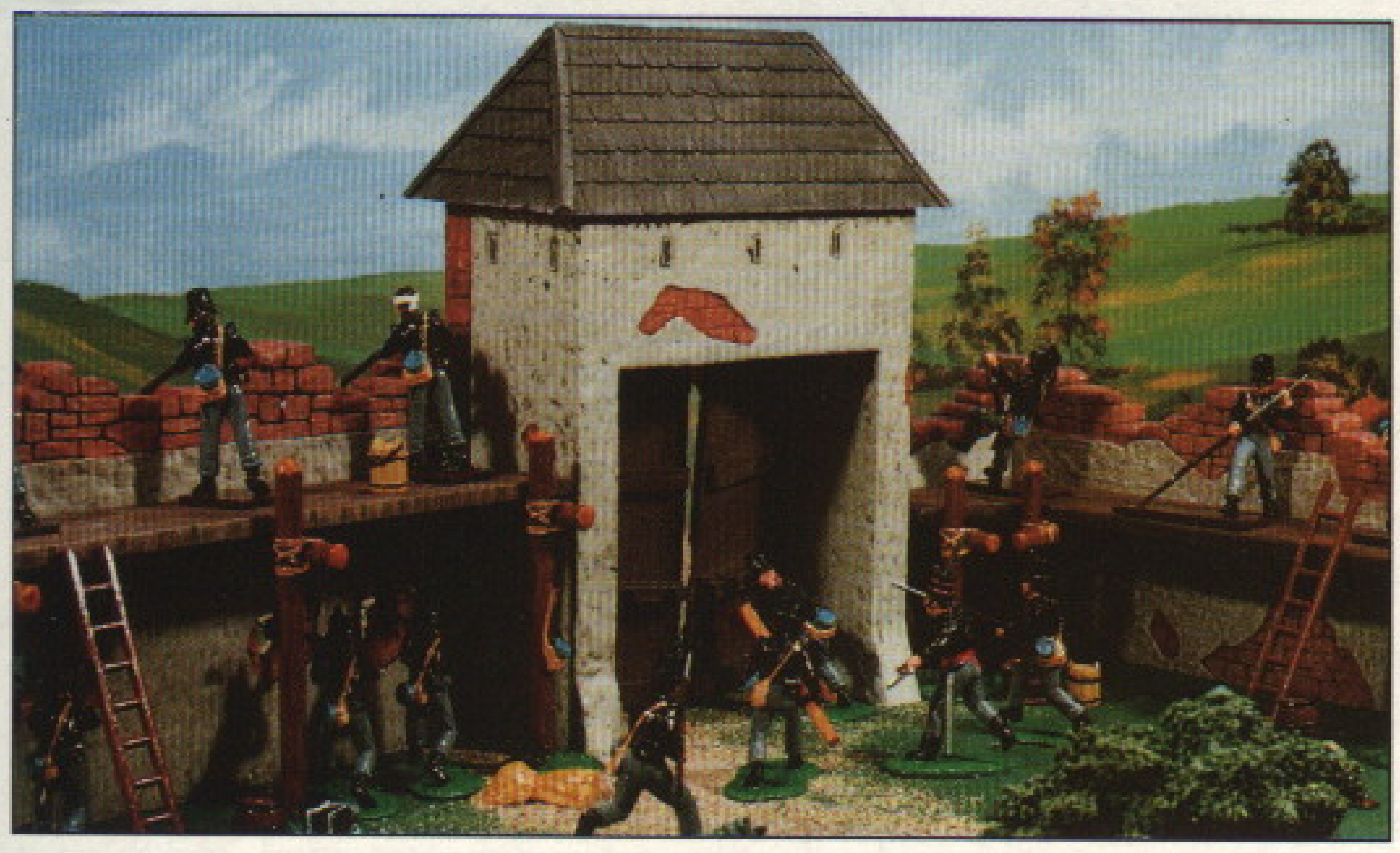
*A set of Confederate artillery of the American Civil War period from Dorset Soldiers (PO Box 2112, Yeovil, Somerset BA22 7YD).*

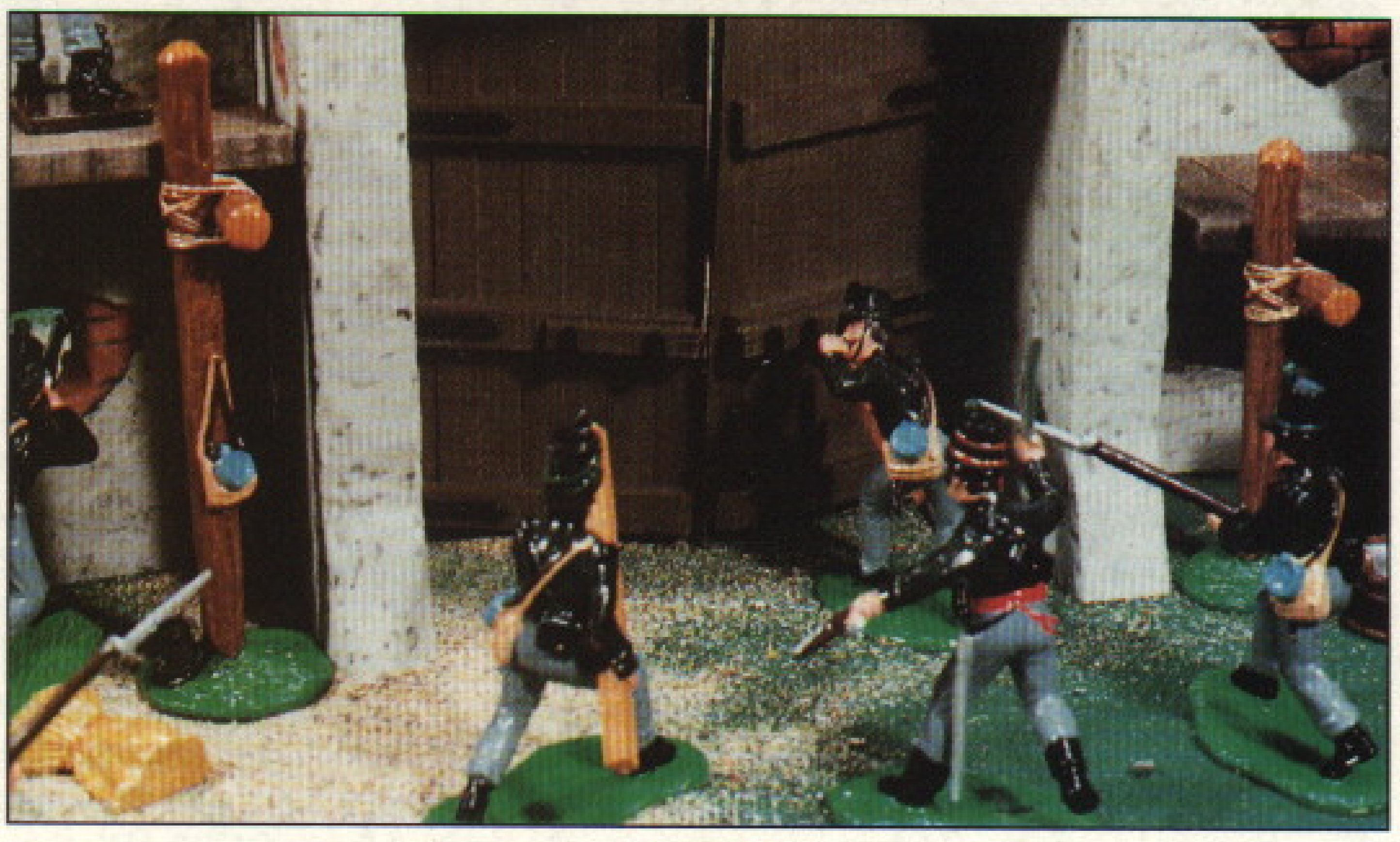


*W Britain recently issued this four piece set featuring The Norfolk Yeomanry (The King's Own Royal Regiment) (Ref 8892). The set is available for one year only.*



*The French try to batter their way into the farm of La Haye Sainte. Part of the Silver Jubilee Commemorative battle diorama by Trophy Miniatures Wales Ltd.*





*ABOVE: An overall scene showing the interior of La Haye Sainte 1815 and the Allied defenders, all from the Silver Jubilee Commemorative battle diorama by Trophy Miniatures Wales Ltd. RIGHT: The Allied defenders rush to defend the gates of La Haye Sainte. Part of the diorama by Trophy Miniatures Wales Ltd.*

the centre of the Allied position during the battle. The section of the farm which is depicted includes the gate, flanked by wall sections that have had loop holes cut in them and firing platforms added, plus a good selection of battlefield debris.

As to the figures, there are 14 men of The King's German Legion, including some firing down from the walls and firing through the hastily cut loop holes, others led by an officer, are trying desperately to barricade the gates. A total of 10 French infantrymen are mounting a determined attack on these same gates. One officer wields a sapper's axe, whilst a bearded sapper hacks at the gates, his fallen comrade at his feet. A private tries to unhinge the gate using a crowbar whilst another makes a gallant attempt to climb a ladder at the wall. On officer and privates fire up at the walls and into the loop holes - splendid stuff! ■

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# SMALL SCALE SCENE

**Robin Buckland's monthly column for military vehicle modellers**

*Guy Ant in 1:35 scale from Arran Models, available from Bellrock Models, 29 Bellrock Avenue, Prestwick, Ayrshire, Scotland KA9 1SQ.*

Another topic to arise from the Miniature Armoured Fighting Vehicle Association show at Duxford this year was more news or some kit piracy. I saw an example of a 1:35 scale conversion from the Czech Republic which, despite a couple of minor changes, was obviously a direct copy of the product of Cromwell Models. Marks on the original Cromwell casting were clearly still there. I understand that others have been seen which duplicate items from other manufacturers as well.

Elsewhere there were some 120mm figures which looked remarkably similar to Verlinden products. Then news of some of the 1:200 scale Skytrex range being found copied and on sale at a bring and buy stall at a show earlier this year. Now, while we all know that many modellers will duplicate the odd piece from a kit for their own purposes, and that is not so bad, it's not for commercial purposes. Copying to sell on as your own product, however, is a different ballgame.

Whilst I, among many, am very pleased to see the number of good models emerging from what we might have previously described as Eastern Europe, I sincerely hope we do not see much more of this. Whether at home or abroad, and however much it may seem a bargain for the modeller, there is no way any of us should condone kit piracy. If you find evidence of it, I would encourage you to let the manufacturers know. It is a problem that rears its ugly head occasionally and one we want to see the back of.

## Of things to come

It is interesting to see the continual flow of new releases from the major kit manufacturers, with stories of Tamiya preparing a GMC truck, the DUKW and a Cromwell. All will be very welcome. Dragon have really turned their attention to the *Panzer IV* series, with *StuG, Jadgpanzers* and Gun Tanks. Incidentally, keep your eyes open for some good prices on many of the Dragon range, especially with these Gunze Sangyo versions of some coming into the country at only around the £15 mark.

## S&S

S&S consistently add new items to their range of wargames vehicles. Cast in polyester resin these are 'solid' items, designed specifically for wargamers and one of their latest is the full cab US GMC 6x6 'two and a half' ton truck. Just a body, separate tilt and the six wheels, a very simple kit. Some basic clean-up is needed on the castings, remembering to be careful as polyester is a more brittle and thus fragile resin. A good few little bubbles, left from the moulding process, need attention. There were some air bubble holes on the tilt, but these were simple enough to fill. Aimed at a very specific market, these are still quite acceptable little models from S&S at 22 Briar Close, Burnham-on-Sea, Somerset, TA8 1HU.

## SHQ

SHQ just keep on adding to their range of 1:76 scale metal vehicle models. Artillery pieces do especially well in metal, and some new German pieces have been added. Among these are the *5cm Pak 38* and, which I liked in particular, for bothering to include the third wheel. These early anti-tank guns had a large third wheel by the hitch point which enabled the crew to manoeuvre it into place. It is an item often forgotten. In addition, SHQ make the *Pak 38(f)*, which uses the same carriage, but mounting a French 75mm gun tube instead. It is recognisable by its unusual muzzle brake.

In contrast to these little guns, SHQ have made the larger German 15cm and 10cm howitzers. These are not the first time they have been kitted in this scale, but these are very good and obvious additions to the SHQ range. SHQ are at 34 Copland Close, Basingstoke, Hants RG22 4JX.

## Small Scale

Two new 1:76 scale German trucks from Small Scale Productions, the small scale range from Scale Model Accessories. Both are cast in resin, but with metal detail parts, and excellent. These are a natural follow on from their Mercedes Field Car and in both radio and ambulance versions. Outwardly they are very similar, but the ambulance has two rear doors in the body, and some basic interior detail.

SMI have also released, separately, a set of medical personnel which is designed to go with this truck, so you could feature it in a small diorama, with the rear doors opened up. Small, but neat packaging and a clear assembly diagram is included with both kits. Again, basic clean up to do on both resin and metal parts, but simply accomplished with a sharp craft knife and super glue for assembly. Small Scale Productions are at 160 Green Street, Enfield, Middlesex, EN3 7LB.

## BW

BW Models have maintained a steady programme of new additions. Last time we looked at their latest version of the Antar tank transporter and this time they have added their own version of the Bedford MK/MJ. The injection moulded model is now on sale from JB Models, but here is a white metal version, with good detail and it doesn't have the tilt moulded on, so you can have an open back.

The immediate version that comes to my mind involves adding the UBRE equipment which is also in the BW range. The complex curves of the cab are difficult to catch, but this one does it well. Full assembly instructions are provided, and after basic clean up you shouldn't experience any real problems. As ever, I still choose to solder mine together for added strength, but super glue works as well. BW Models are at 5 Brinkburn Place, Amble, Northumberland, NE65 0BJ.

## Hart Models

Following on from their Bedford Tactical Refueller, Hart Models have turned their hands to its famous predecessor, the Bedford QL refueller. Harts continue to add steadily to their high quality 1:48 scale range of military subjects.

They first made the QL with the QLD and the QLR a few years ago and now they have the QL refueller, in RAF and Army versions, i.e. with or without the refuelling booms over the top. The cab, chassis and details are cast in white metal while the tank body is a single resin casting, and again of an equally high standard.

Assembly is straightforward, simply by following the instructions provided, and there are decals as well. As with all metal models, do take time to check and clean up the casting points on all parts prior to assembly. One thing I particularly like about this, as with other models from Harts, is that the axle and spring units are single pieces. As a result you don't get the problem of lining it all up for a square sit on all wheels. I believe it is always worth pointing out that these models are made primarily to be sold ready made and painted for another market running alongside that for modellers. Fortunately for us though, the kits are also made available in kit form. They have to be good to allow an acceptable 'production line' assembly or otherwise the time element would be too great.

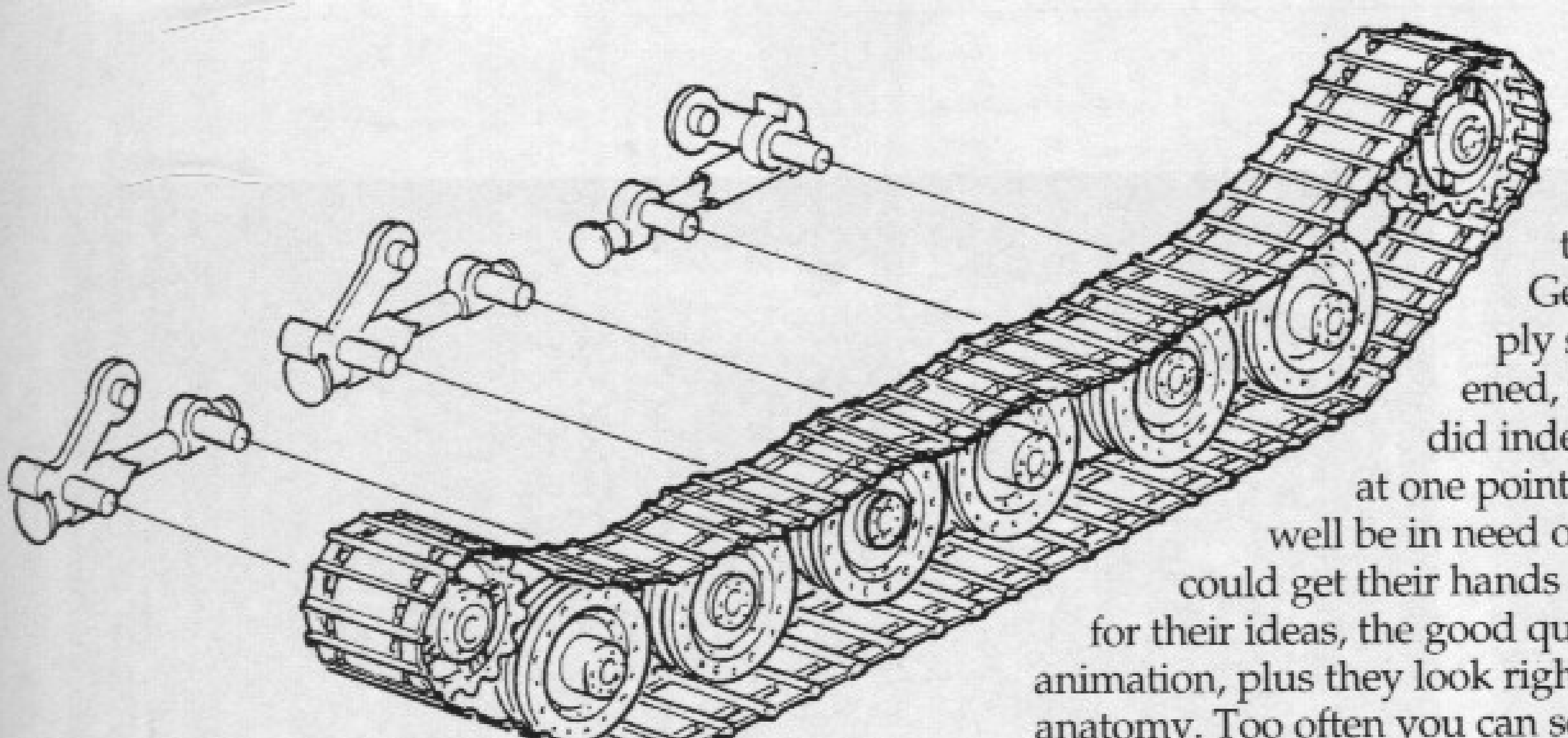
The Bedford QL is still a favourite, and I think I liked it right back in the early days when the Airfix 1:76 scale Airfield Refuelling set was released. Hart Models, at the Cricket Green, Hartley Wintney, Hook, Hants, RG27 8QB.

## Milicast

Among more 1:76 scale releases from Milicast is the *Bergelephant*, a really impressive piece, which even includes a length of tow chain in the kit. The one-piece hull, with some thin sheets on the sides that are proud of the decking, is a fine example of just what can be cast in resin. Instructions are included, but some of my past comments still apply especially regarding the placement of the suspension parts. To help out, therefore, here is a sketch to remind those of you who need it for how the correct suspension parts should be identified and fitted on this series.

Earlier, Milicast released a *Bergehetzer* and it's good to see another recovery variant. Other than getting the suspension right I don't think you should have any problems with this kit and you will be able to add a relatively unusual and striking kit to your collection.

Another series of vehicles Milicast have turned their hand to is the *SdKfz 251 Ausf C*, this time in 1:76 scale. While Fujimi did the early B series, and plenty of metal and resin kits of the Ds exist, we only had the slightly larger Esci kit if the C series. Now Milicast have them in 1:76 scale, both with the basic APC vari-



*How the suspension units fit on to the Elephant - two leading and one trailing. Drawn by Grahame Chambers.*

ant and the *SdKfz 251/9* which has the 75mm gun to provide some mobile artillery support to the infantry. Lovely models these, and you do have the option of having the rear doors open too. As something of a fan of the *SdKfz 251* series, it is good to see this middle production type done as well as these, fitting in properly with the other 1:76 scale models on the market. Milicast are at PO Box 711, Glasgow, Scotland G41 2DS.

## Firing Line

A product line I haven't tried out any before are models from Firing Line who had both 1:76 and 1:35 ranges on show at Duxford. The core of the 1:76 range is the former series from Lead Sled, though much changed with the addition of etched brass parts among other things, plus some original models, some of which are made up mainly from etched brass sheets that you have to fold together and then some white metal detail parts. The idea looks interesting, unfortunately I don't know about how easy/difficult they are in practice.

The 1:35 scale line is that formerly from Dartmoor Military Models. Again, they have been subject to a degree of changes, and equally with some etched brass parts. From what I saw and in the way the construction was described to me it seems there may be interesting improvements here. For example, in the way the windscreens/doors are constructed on both the 1-ton Rover and the Land Rover Lightweight. Again, I'm afraid I can give no guidance on how easy or not they are to assemble in practice. Certainly some interesting looking items though, The Firing Line series are available from David J. Parkins, Trefacwn Fach, Llanrhian, St Davids, Pembrokeshire, SA62 6DP, Wales, UK.

## Jaguar

Jaguar are an American range of 1:35 scale armour accessories and figures imported into the UK by Cromwell Models. I have mentioned their AFV conversions before, but this is a quick spot for a couple of figure sets. Not my normal topics, granted, but I liked them for the 'theme' they provide for a diorama. One of the things about the best dioramas in my own opinion is their ability to tell a story. The figures that accompany our favourite vehicles can, therefore, be all important.

These two-figure sets are very good quality resin castings and both can immediately guide the eye to a story. One has a German infantryman with his hand on the shoulder of a captured Russian tank crewman which added to a knocked out Russian AFV or two and possibly a *Kübelwagen*, or perhaps a truck, to take him away with his captors. The second is a couple of US tankers walking back loaded with jerrycans and an ammo box. With the breakout from Normandy and the race for Germany so the supply situation worsened, indeed, US troops did indeed 'run out of gas' at one point, so a crew may well be in need of whatever they could get their hands on. I just like these for their ideas, the good quality sculpting and animation, plus they look right in terms of anatomy. Too often you can see poorly proportioned figures and that spoils it for me. Available from Cromwell Models, Progress House, 39 Kirkpatrick St., Glasgow, Scotland G40 3RZ.

## Convoy

Convoy have added an Italian truck to their range, the Lancia 3RO. Somehow, the Lancia always looks rather unusual to me compared to many item of Italian equipment, it is a relatively large and business-like looking truck, compared to the many small and fairly dated look of others. The kit captures this look well, cast in polyurethane resin, it is a fairly simple kit to construct and the parts need little more than basic cleaning up with a craft knife. The instruction sheet supplied is fine and gives a bit of history on the 3RO. For this one, the GS version, an optional tilt is included, the texturing of which is amongst the best I've seen. Convoy are at 23 Mare Bay Close, St. Leonards-on-Sea, East Sussex, TN38 8EQ.

## Castoff

Castoff is a range we have seen before, in conjunction with C.A. Atkins and their 1:35 scale armoured cars. They have a new British tank crew figure as a single item, which is a standing figure in a British 'Pixie' suit. Simple enough, with just three parts, the body, right arm, and the magazine for the Sten submachine-gun he is holding. Very clean casting with no air bubble blemishes in the polyurethane resin. He is well proportioned and the detail has reproduced very well indeed. Available from Castoff at West Drive, Driffield, East Yorks, YO25 0QD.

## Dragon

I don't know about a Dragon that breathes fire, I wouldn't think it had much breath to spare to do that considering their rate of new releases, be they vehicles or figures. Having tackled the *PzKpfw III* series, now the *PzKpfw IV* series has been pretty comprehensively covered, except for the early versions that is.

A couple of recent releases that have arrived with me are the *PzKpfw IV Ausf F1* and the *Jagdpanzer IV* Command version. There is no getting away from how well produced these kits are. I also like to see the 'revival' of good box art - Airfix did it once, then they had cause to change over to just photos of the completed model. What we now see from Dragon is eye-catching and attractive, enough to attract you. Inside? well the kits are excellent and they don't require much more comment from me. Also, it is good to see Dragon covering specific command versions of the gun tanks. The Dragon range is available from local model shops or from mail order houses who advertise in this magazine.

## Hudson & Allen Studio

Hudson & Allen is another range of good quality diorama accessories from the USA, imported to the UK by Model Search International. Amongst the latest are some different tow cables. These are braided wire and come with the end pieces to be drilled out and fitted to the cable. A neat touch is that the cable is already 'rusted'. By rubbing it carefully you will simulate wear by letting the bare metal show through.

Also new are some individual tree leaves. The example I have to hand are the Norwegian Maple tree, available in both Summer and Autumn colours. They come on a single backed sheet, with each item carefully cut round and which can just be removed from the backing sheet. A bit of extra colour highlighting will take away the starkness of the green on the summer ones, and hints are given on the backing header card. If you want to really go to town in adding some foliage around a particular AFV model, then these are worth looking at. Don't expect to do it in a hurry though, it will need care to apply them. These, and other bits in the Hudson & Allen range, are available from Model Search International, Hill House, Top Road, Slindon, Arundel, West Sussex BN18 0RP.

## Matador

Following their purchase of the ex-Model Transport German Armoured Train, Matador are gradually expanding the number of new kits and conversions in their catalogue. Among these are a variety of conversion options for the Churchill in 1:76 scale. The basis of the one I have is the Matchbox Churchill AVRE, to convert it to the Mark IV NA75. This was a workshop effort to up-gun the Churchill in North Africa when some Sherman 75mm guns were fitted to Churchill turrets, complete with mantlet. This conversion is in polyurethane resin and has replacements for the turret, the upper hull plate and the two outer side sponsons. This gives parts which have the AVRE fittings removed. Assembly is quite simple, just follow the instructions given to just replace parts within the basic kit construction.

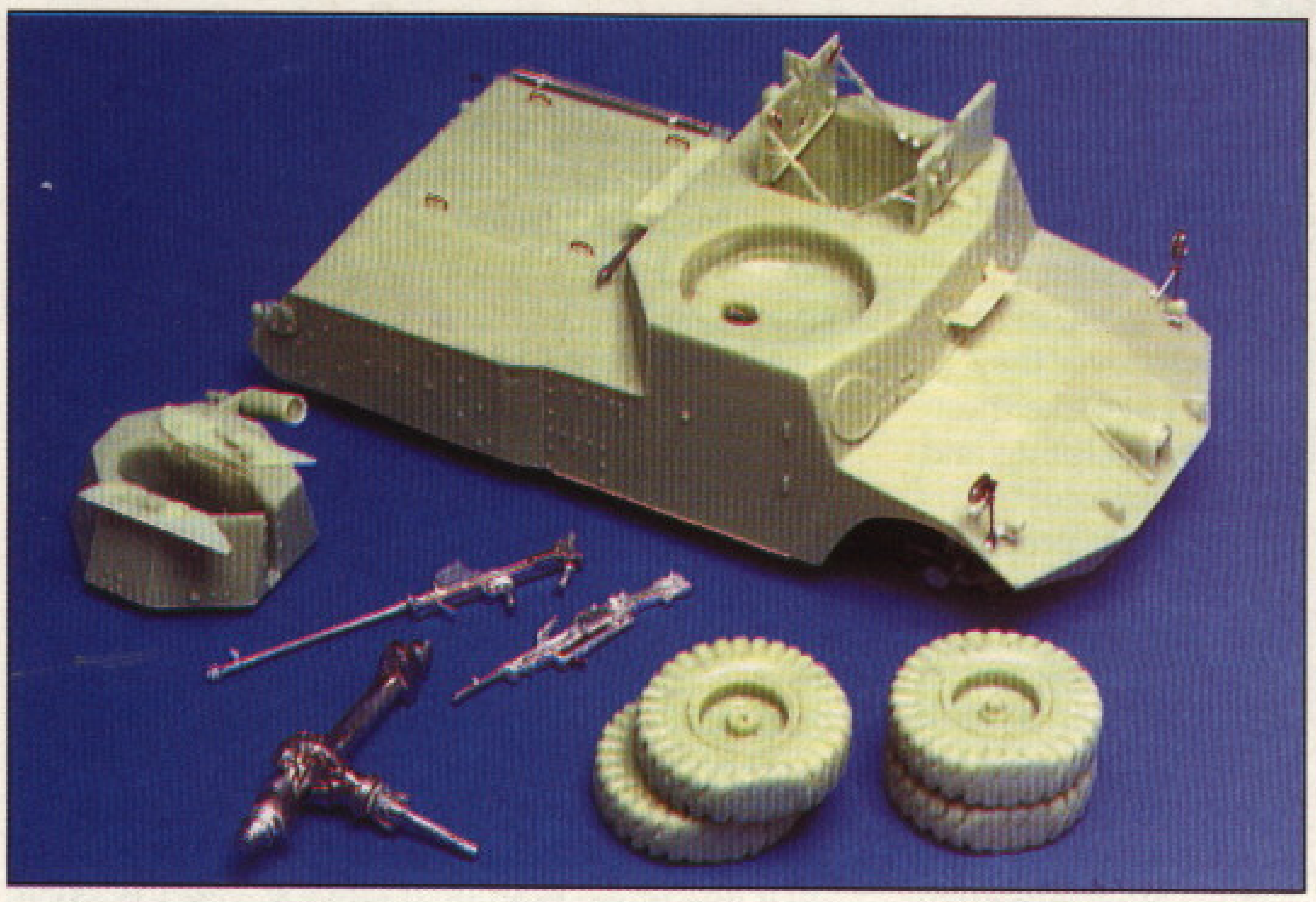
As a slight correction to one of my previous mentions of Matador, they do include an instruction sheet with their Matador flatbed conversion. I do now have a copy, it seems it was just unfortunate that it was missing from my box. Still, you can't win 'em all. Matador Models are at 6 Cliffe Road, Barton on Sea, New Milton, Hants BH25 7PB.

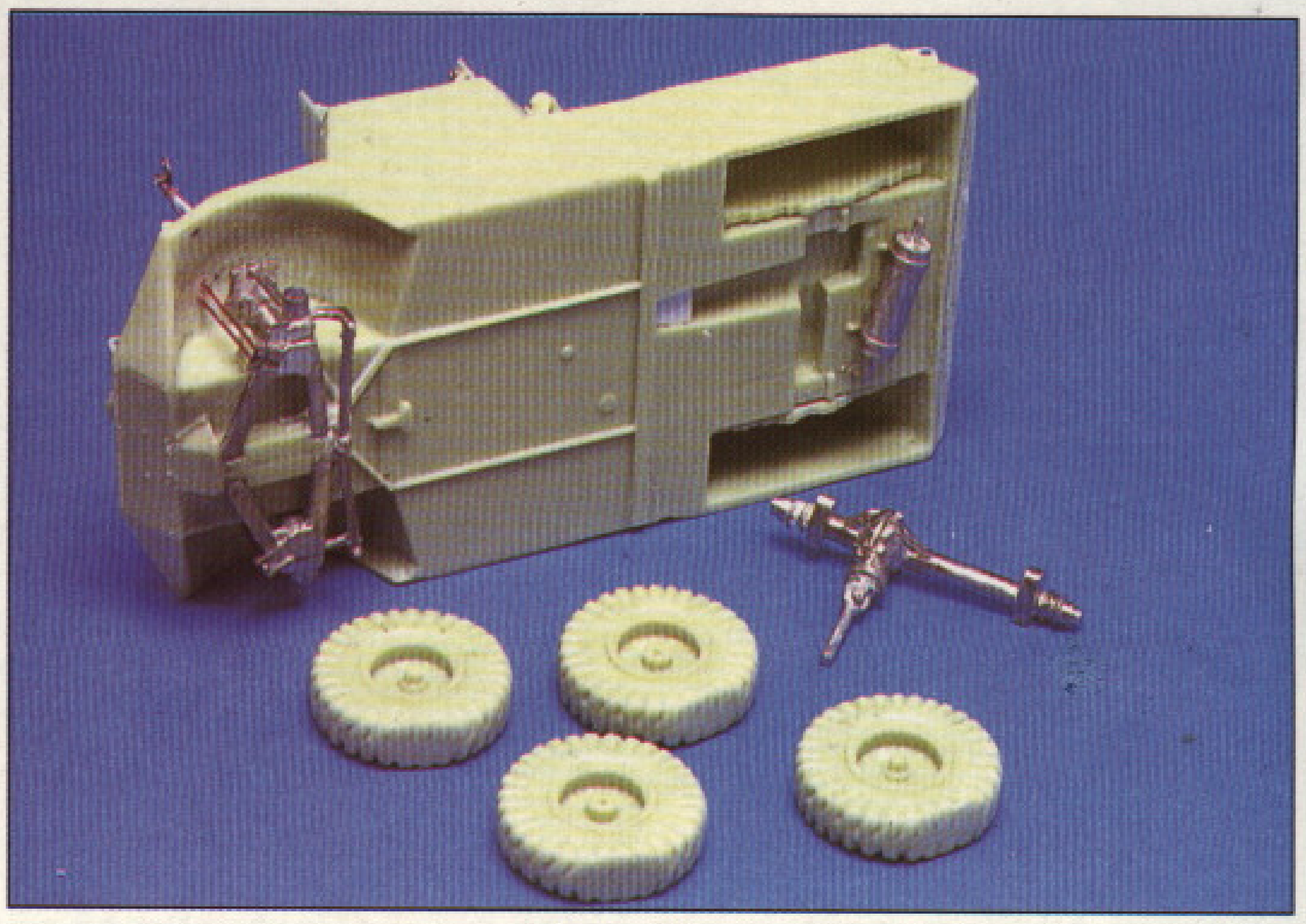
## Whoops!

We printed the wrong address in SSS Vol.27 Issue 13 on page 44 for the suppliers of Plus Models from the Czech Republic. This should have read F&F Models, 44 Bretby Road, Newhall, Swadlincote, Derbyshire DE11 0LJ. Apologies to F&F Models and readers for this gaff. It was the Editor's fault!

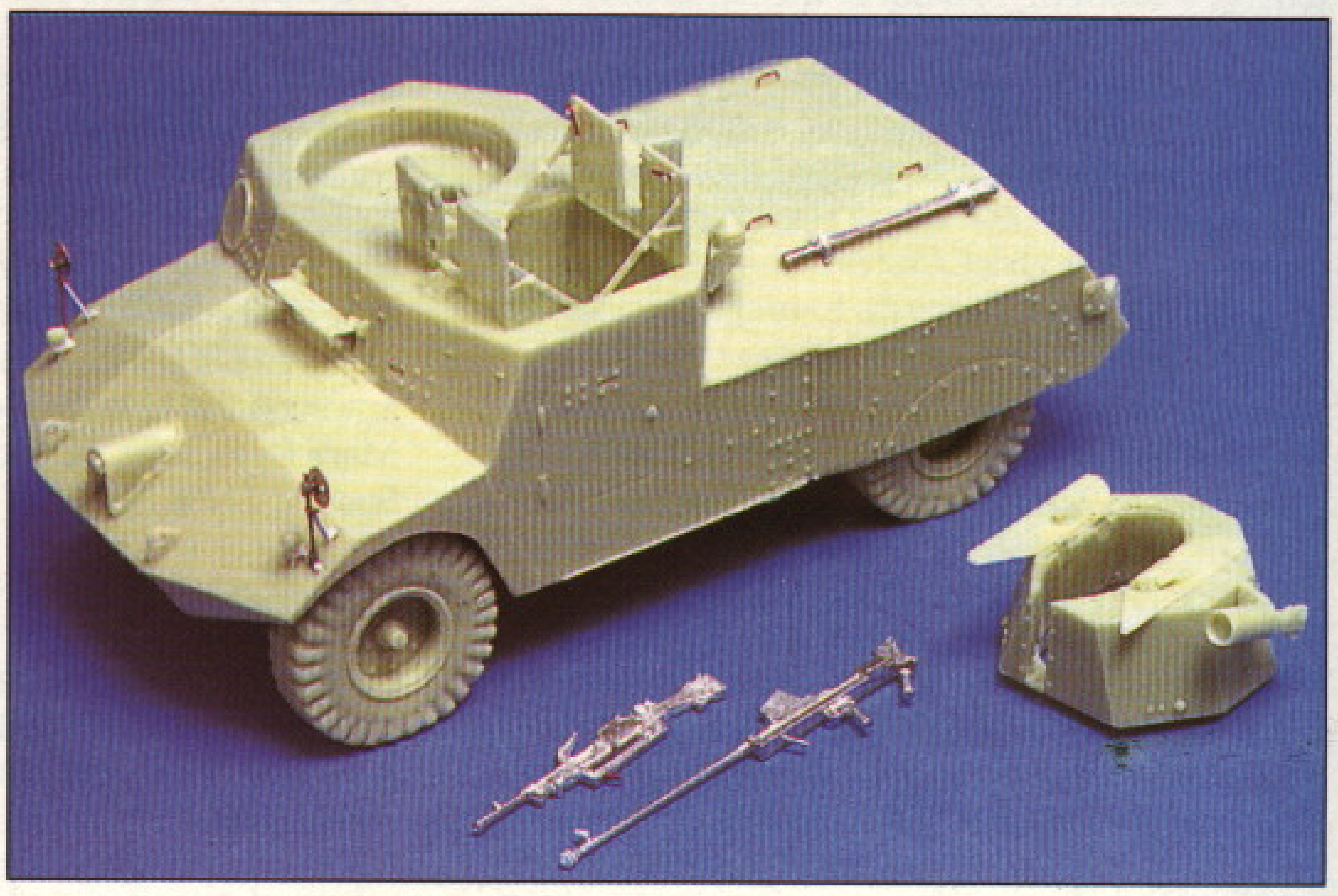
## Magazines

*Journal of Military Ordnance* for September is as interesting as usual. Major features, with photographic support, cover the T-90S (essentially an upgraded T72), the South African Buffel troop carrier, the role of Sherman DDs in the invasion of Southern France, the M113 family in Egyptian service, new armour for the German *Transportpanzer Tpz1*, plus a good coverage of the Soviet 57mm S-60 AAA M-1950. This one especially makes good reading, where this post-war gun owed much to captured German material on the *Flak 41*. A few colour pages are gradually being added to the magazine which hold some useful detail for modellers. Available from Darlington Productions, PO Box 5884, Darlington, MD 21034, USA. ■


*Basic sub-assemblies of the kit. Flats have been applied to the tyres.*


*Undersurface details and the white metal back axle which needs its wheels fitting before it is located its slots in the hull.*

# Reconnoitre this one!


*The turret and armament have yet to be added.*

### Marcus Nicholls checks out Accurate Armour's 1:35 scale kit of the British Morris Light Recce Car Mark I of WWII

One of Accurate Armour's more recent releases is the diminutive Morris Mark I Light Reconnaissance Car, used by the British in the early part of WWII.

The Morris was powered by a 71 bhp four-cylinder engine, mounted at the rear of the chassis and driving the rear wheels only (the Mark II featured four-wheel drive, a distinct improvement). All-up weight was around three tons, which was largely due the armour plating to protect the three-man crew, of which the driver sat in a forward central position, presumably for a good view.

Armament consisted of a Boys anti-tank rifle on a flexible mount in the left side upper hatch, and a Bren Light Machine-gun mounted in a small octagonal turret, which featured a smoke discharger mounted on one side. The modest size of the vehicle meant that the interior was quite cramped, however, access via two large square hatches either side of the superstructure allowed a rapid egress in times of trouble.

To improve things inside, much of the crew's gear was stowed on the exterior, including tarpaulins, camouflage nets, bed-rolls and water cans, etc. When the Morris saw service in desert conditions, a great deal more stowage was seen, sometimes obscuring the outline of the vehicle, and making it a great subject for a model kit!

## Materials of construction

The kit consists of a one piece resin casting for the body, and resin wheels/tyres, turret, hatches, stowage, etc. The suspension, rear axle, exhaust and weapons are cast in white metal. A small sheet of photo-etched brass provides the rear engine screen, rear view mirrors, and a length of rod is included for mirror posts. The familiar, well-designed instruction booklet is more than adequate to guide the modeller through the simple construction sequence, and this stage should take no longer that a couple of evenings work.

## Construction

Things begin with the front suspension, and after the white metal castings have been cleaned up, assembly can proceed using cyanoacrylate adhesive. It's important initially to take time when aligning the components to ensure all four wheels sit in the ground.

The rear suspension consists of a simple live axle that locates onto the cast-in leaf springs, but it did become clear that the wheels must be mounted to the axle ends before installation so the sub-assembly will fit behind the crescent shaped wheel covers. If you want to paint the wheels off the model, the axle and wheels must be left off during painting.

The rest of construction involves the addition of lifting eyes, hatches and turret mounted smoke discharger, which received a firing cord made from copper wire. In the instructions, the rear lights are shown mounted too near the lower rear corners of the body. They need to be relocated about 4mm inwards and 5mm up the rear panel, in line with the rear lifting eyes.

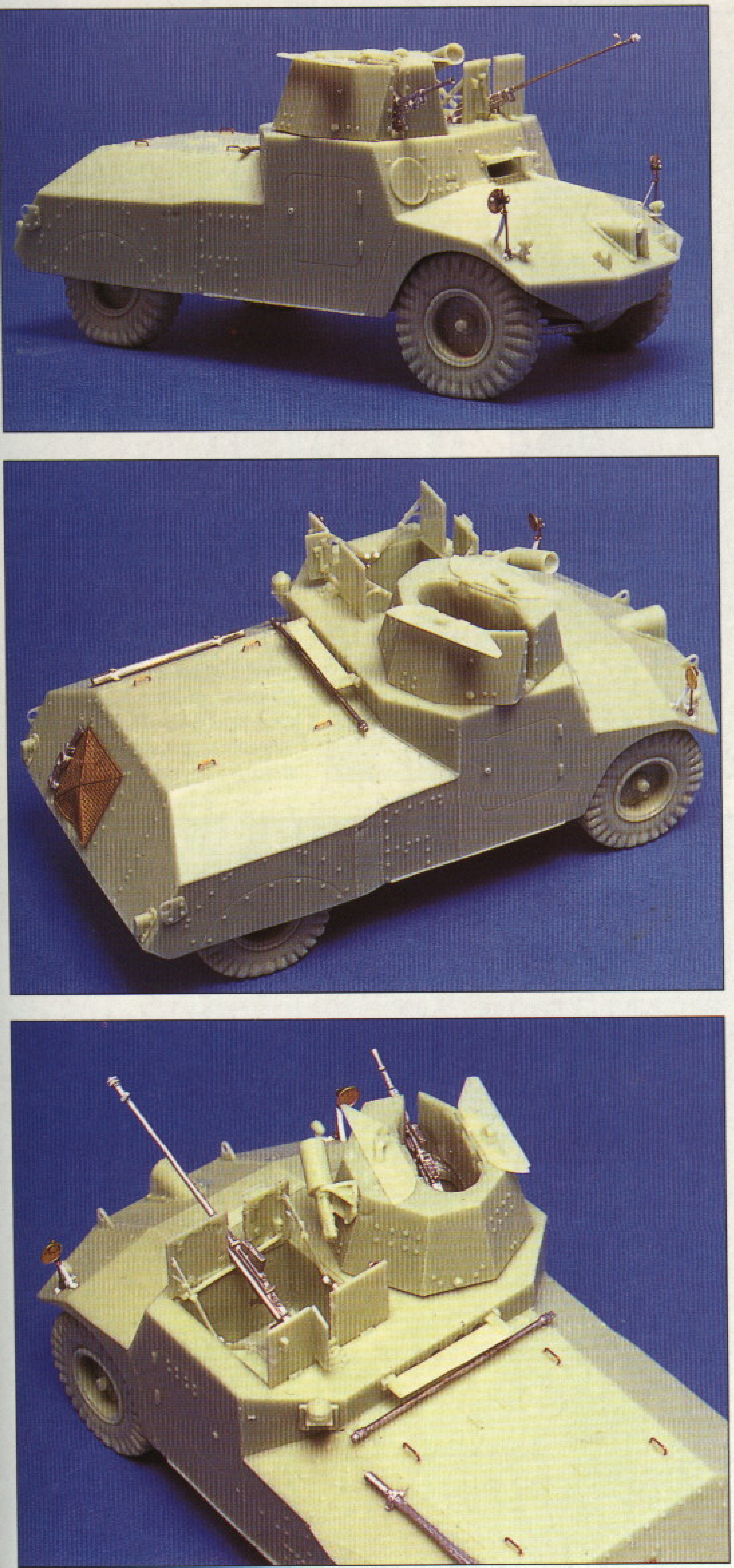
## Armament

The Bren Gun and Boys anti-tank rifle are good quality castings based on Tamiya's injection moulded items that came with that company's Universal Carrier and Chevrolet LRDG kits, although I did add a little extra detail to the muzzle and sight of the Boys ATR. A short length of wire was added to the mounts of each, with corresponding holes drilled into the vehicle to offer a positive locations.

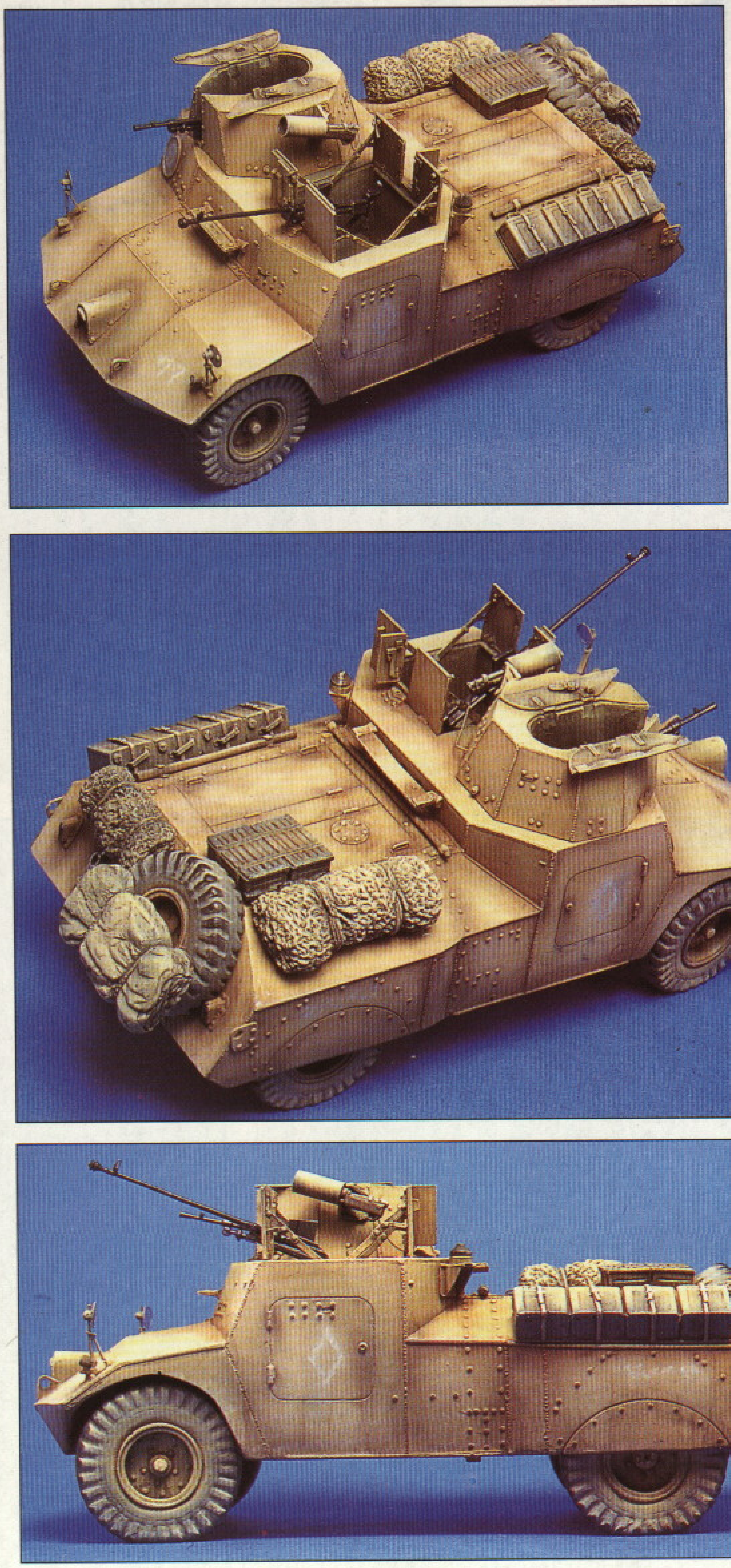
The only other procedure I carried out was to add flat spots to the tyres. A slightly risky task this, as it involved heating one edge of each tyre over a cigarette lighter, and squashing in the jaws of a vice. I can't recommend this practice as resin is quite flammable (and you could ruin the wheel), but it did result in a pleasingly realistic bulged effect.

## Painting time

With all parts except the stowage, rear axle/wheels and turret in place, it was time to begin the painting process. First of all, everything (including the weapons) received a coat of Halford's Grey Primer to give a consistent surface for the ensuing layers of paint.



*The assembled model before undercoating and painting*



*The finished model*

It's an important step as model paint does not always adhere to metal well, but sticks like crazy to this excellent primer, which is of the highest quality.

After at least one day to dry, the painting can begin. I kept things simple - I had originally intended to finish the model in pristine European overall green/black camouflage but as I was unsure of markings, I chose a desert based vehicle instead, killing two birds with one stone - the sand coloured scheme meant I could be very vague with the markings, and I could apply plenty of my favourite weathering!

A mixture of Tamiya Acrylics formed the base coat, followed by light washes of very thin Burnt Umber and Raw Sienna oil paints. Weathering was accomplished by generous applications of artists' pastels to provide shading and to give a dusty, abused appearance.

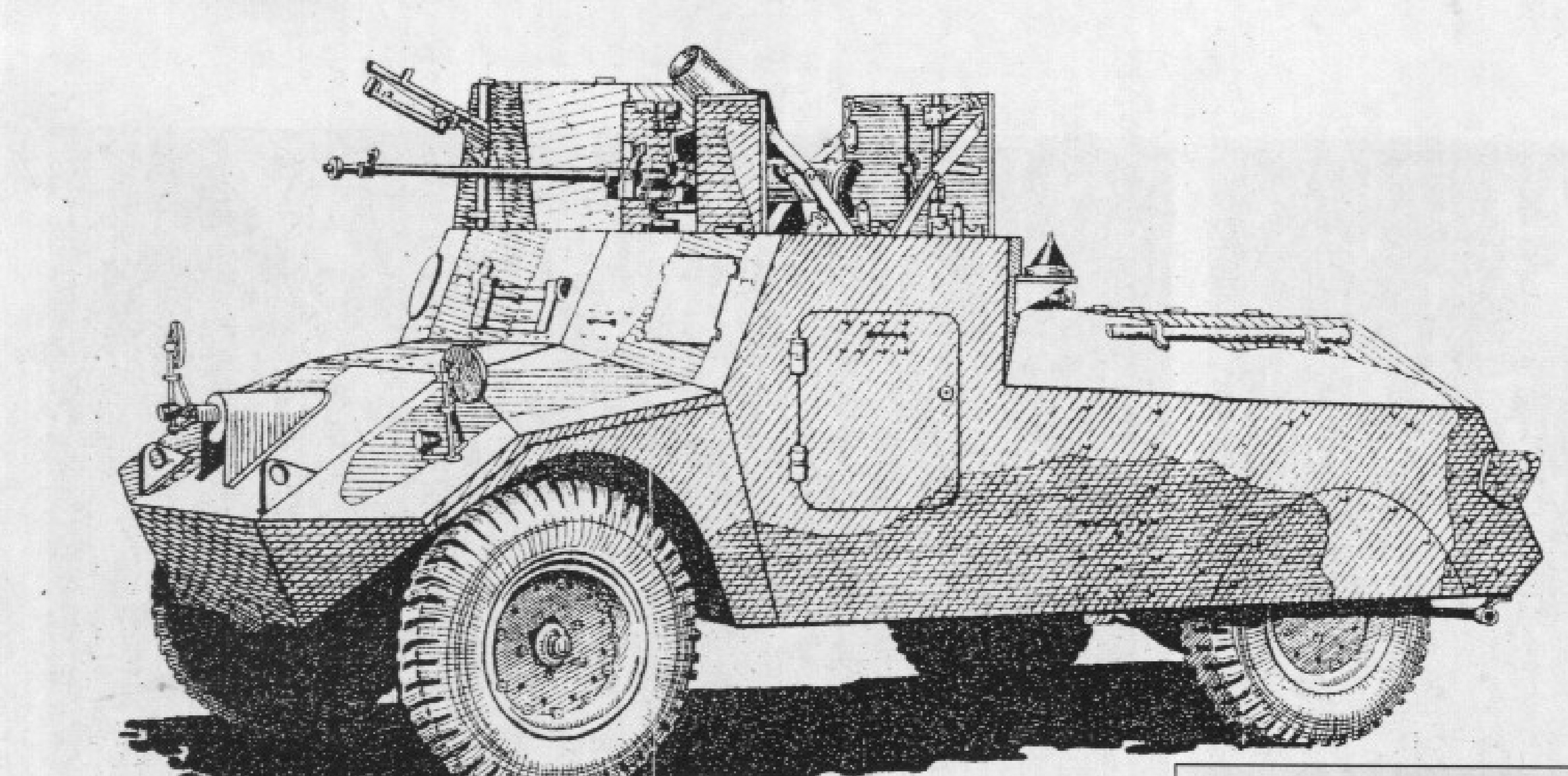
The Bren and Boys were airbrushed with Humbrol Metal Cote Gunmetal, which when dry can be lightly buffed to impart a realistic semi-metallic sheen. The stowage received appropriately dusty tones of khaki, sand and grey, and installed with small drops of cyano adhesive.

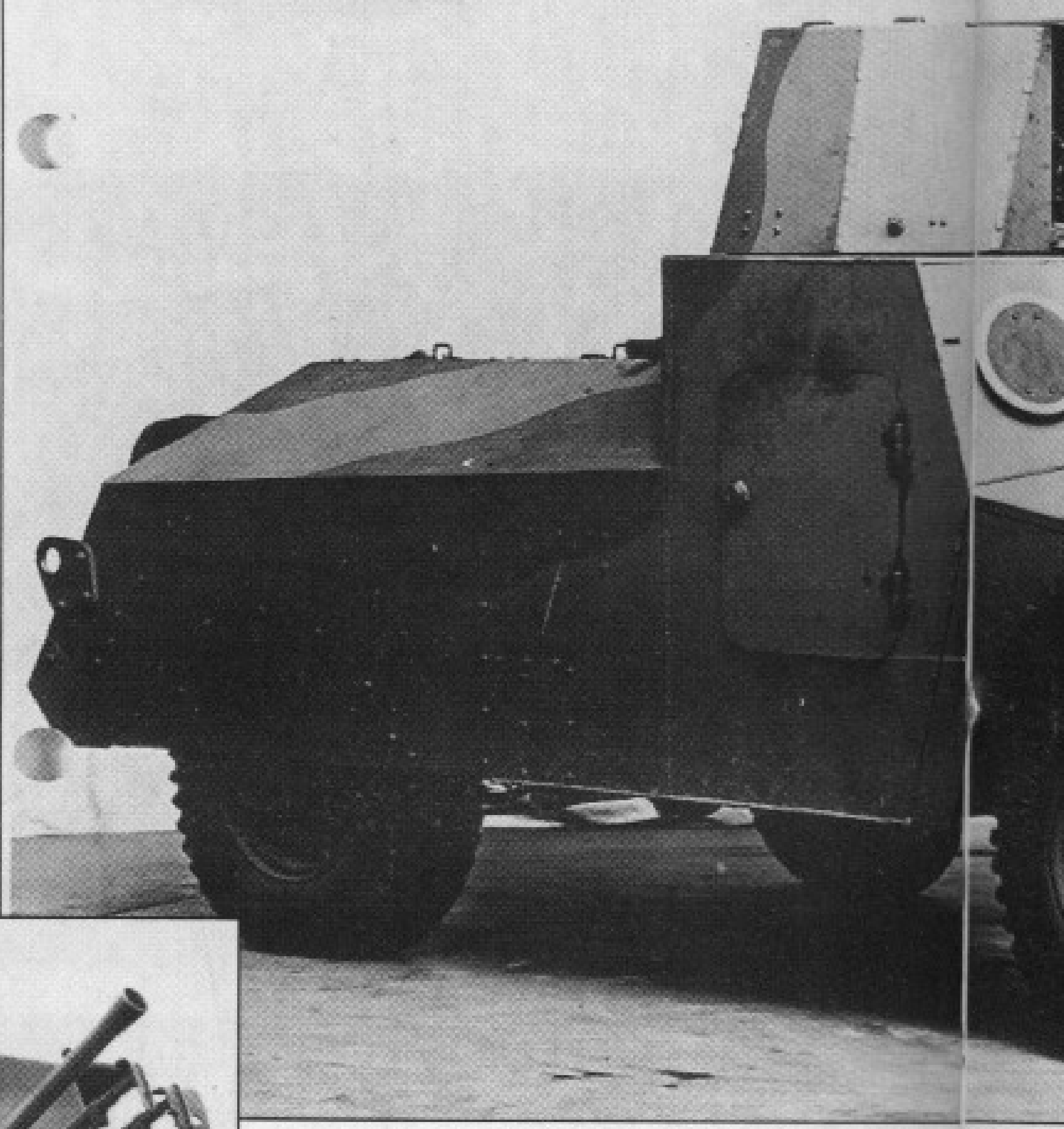
## Finishing touches

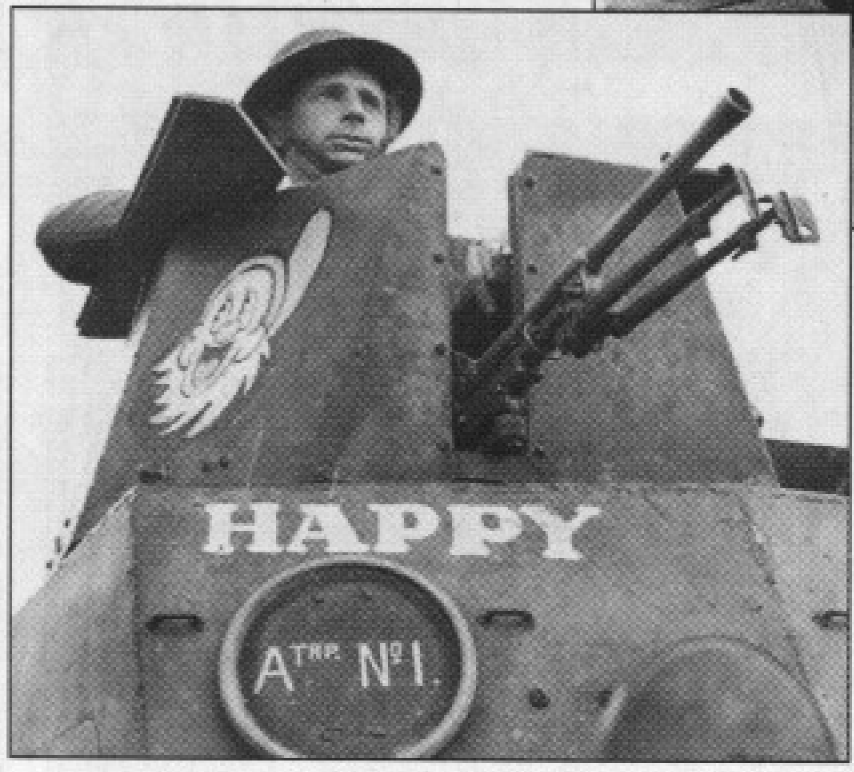
A sharpened white chalk was used to represent very heavily faded (and therefore unreadable!) markings. I am still undecided as to the markings which I'll apply after further research at a later date. I may even revert to my original intention of a European black/green finish. The War Department numbers for the Morris Mark I were M4857187 to M4857680 inclusive.

The guns were installed at the very end of construction to avoid damage.

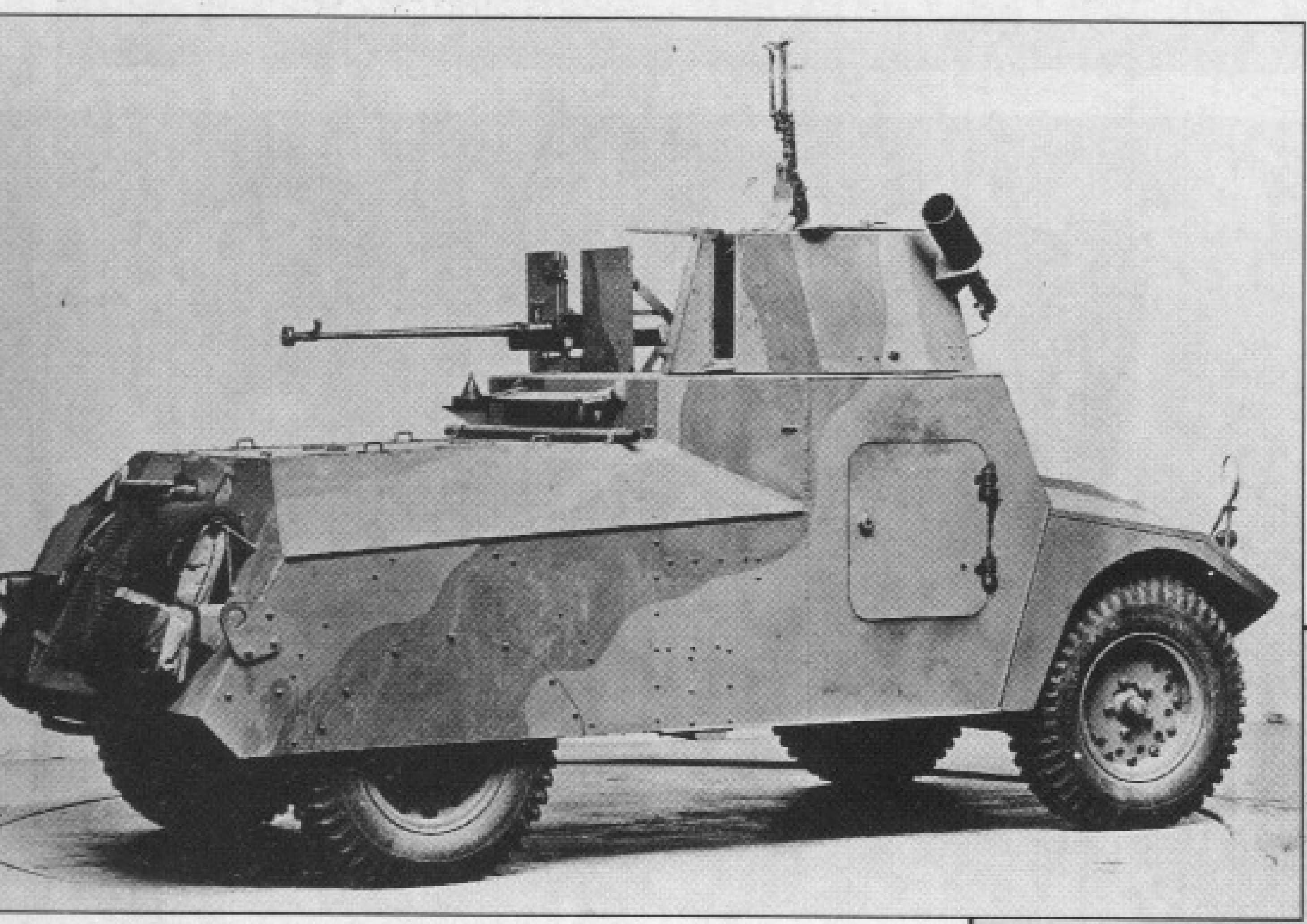
Accurate Armour's Morris LRC Mark I was now complete - it's one of the company's least complex models, but also one of their most appealing. The detail is very crisp, and the outline appears to be accurate when compared to plans. With a little care to make sure it sits on the ground, you'll end up with a highly convincing

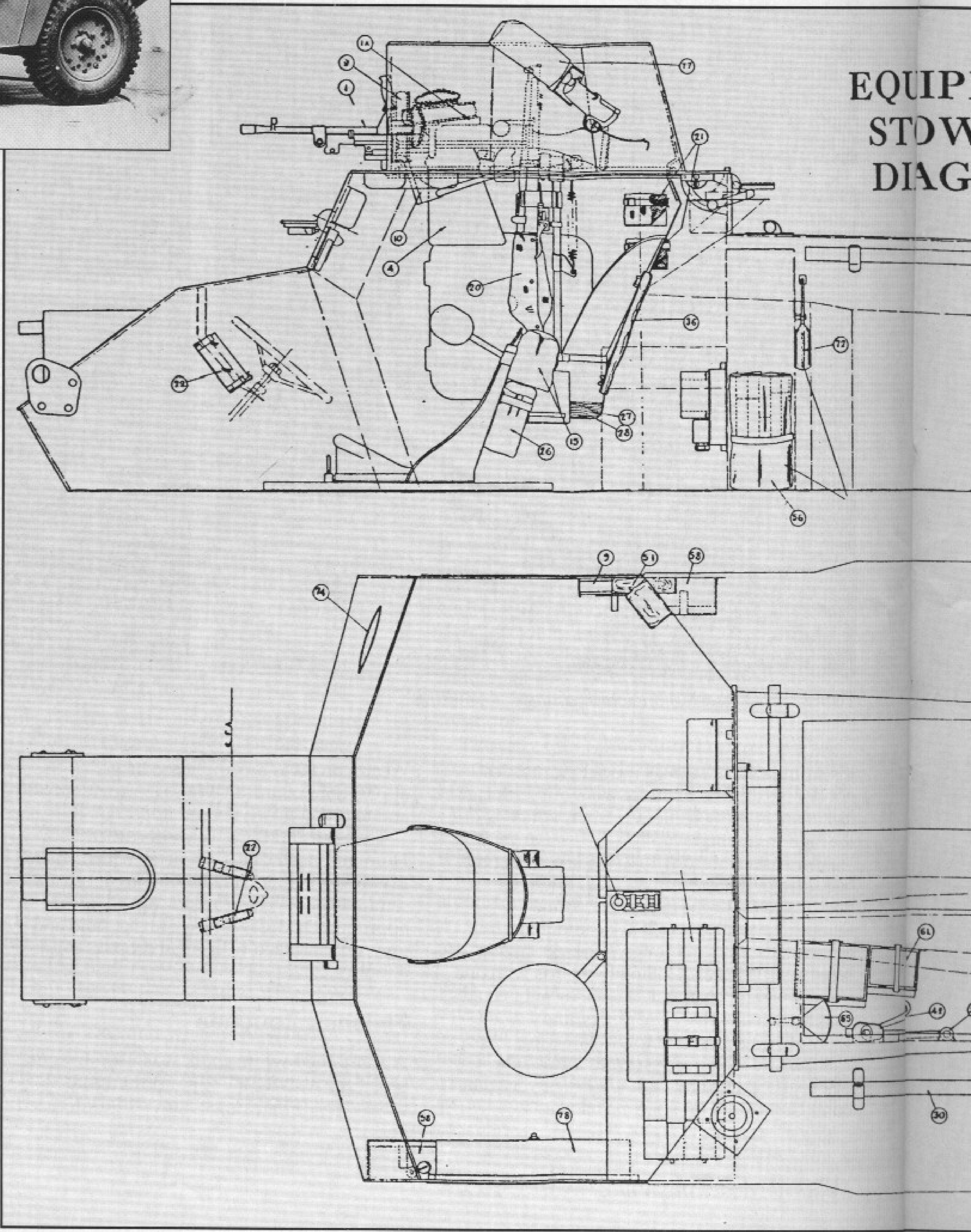


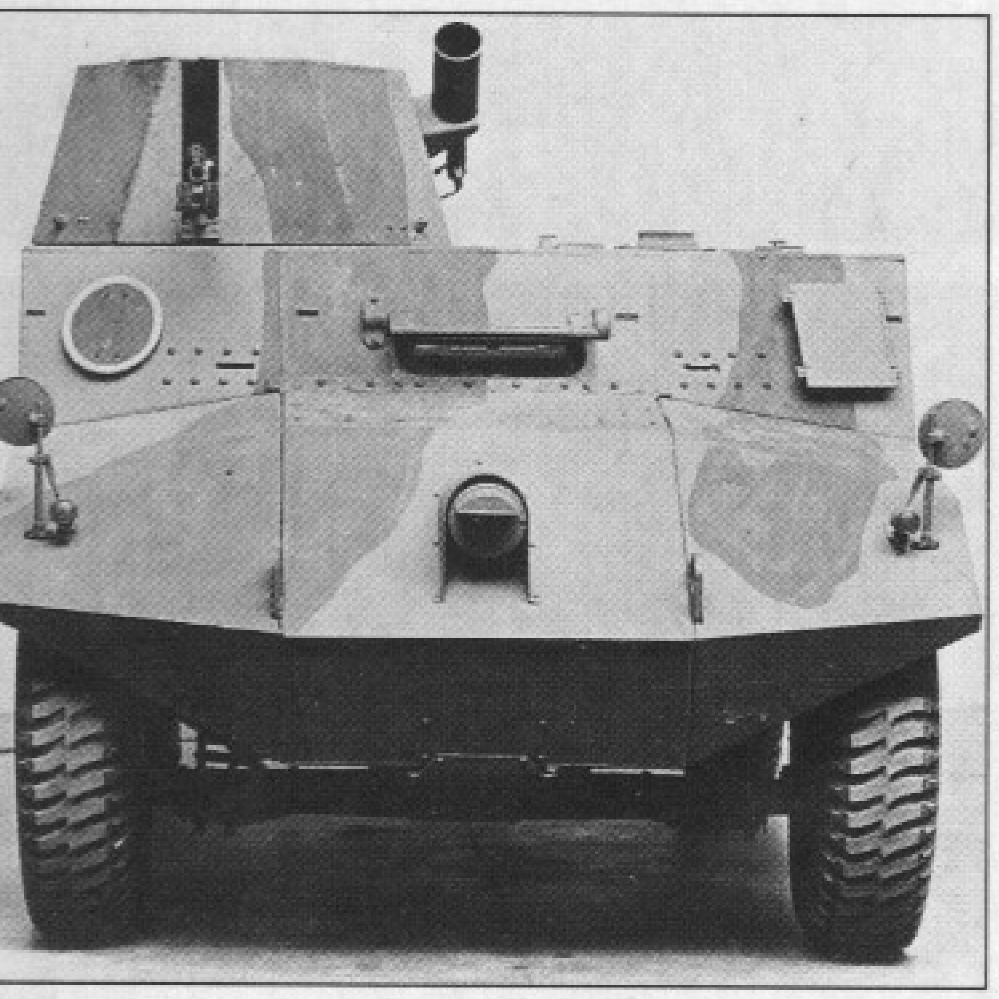


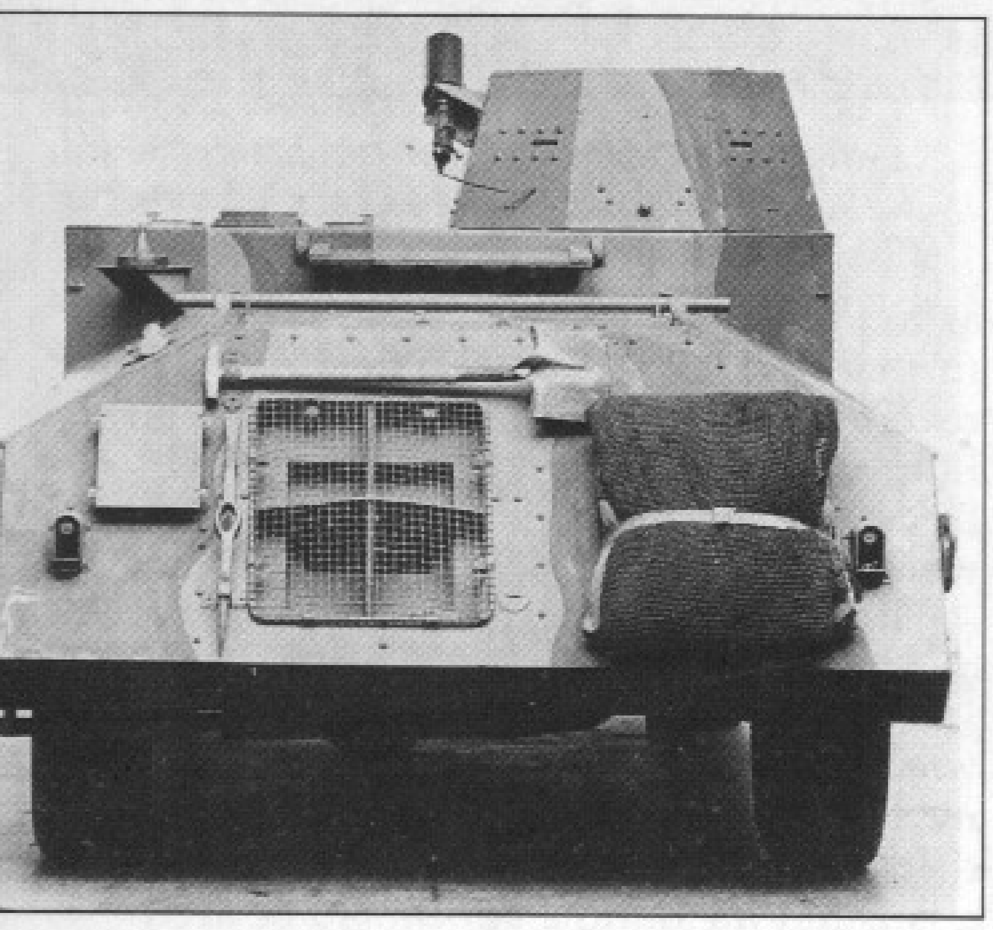


*A close up of the turret motif on 'Happy'. The .303in Bren Light Machine-gun is mounted in the turret and these guns usually had 100-round drum magazines in addition to the standard 28-round curved box magazines when fitted into vehicles. Drum magazines are shown on the internal stowage diagram.*







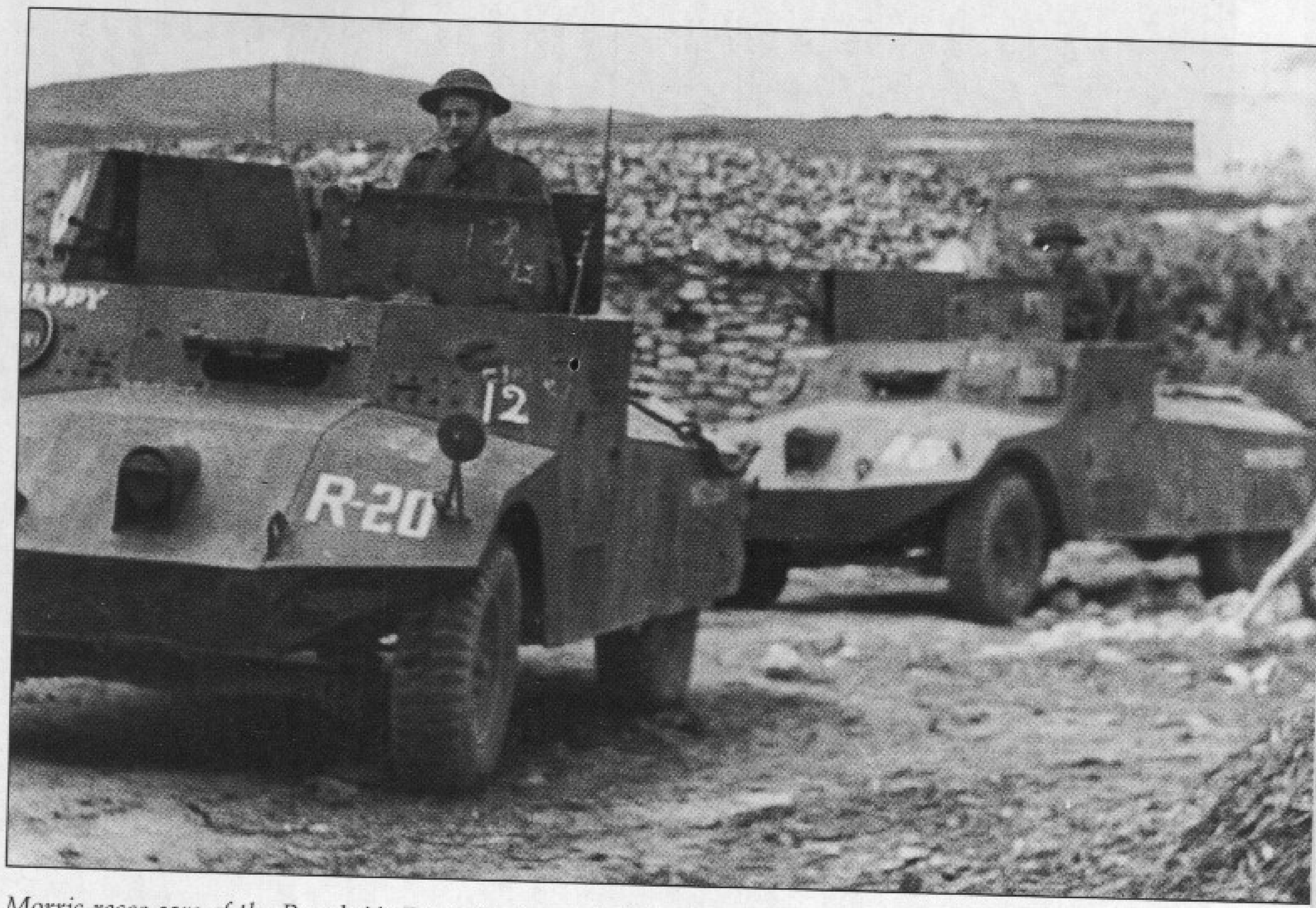


*Four views of a factory-fresh Morris Mark I taken before its WD number had been applied. RAC Tank Museum.*

model of this small and peculiarly British recce car.

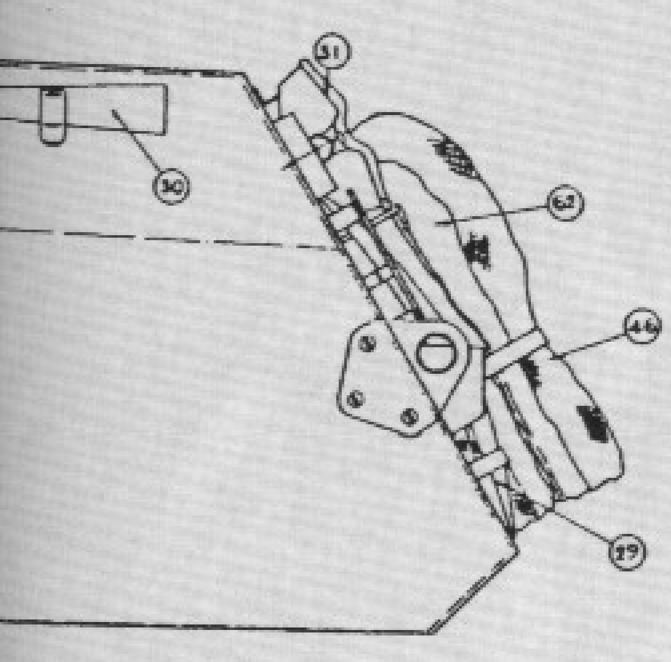
## Availability

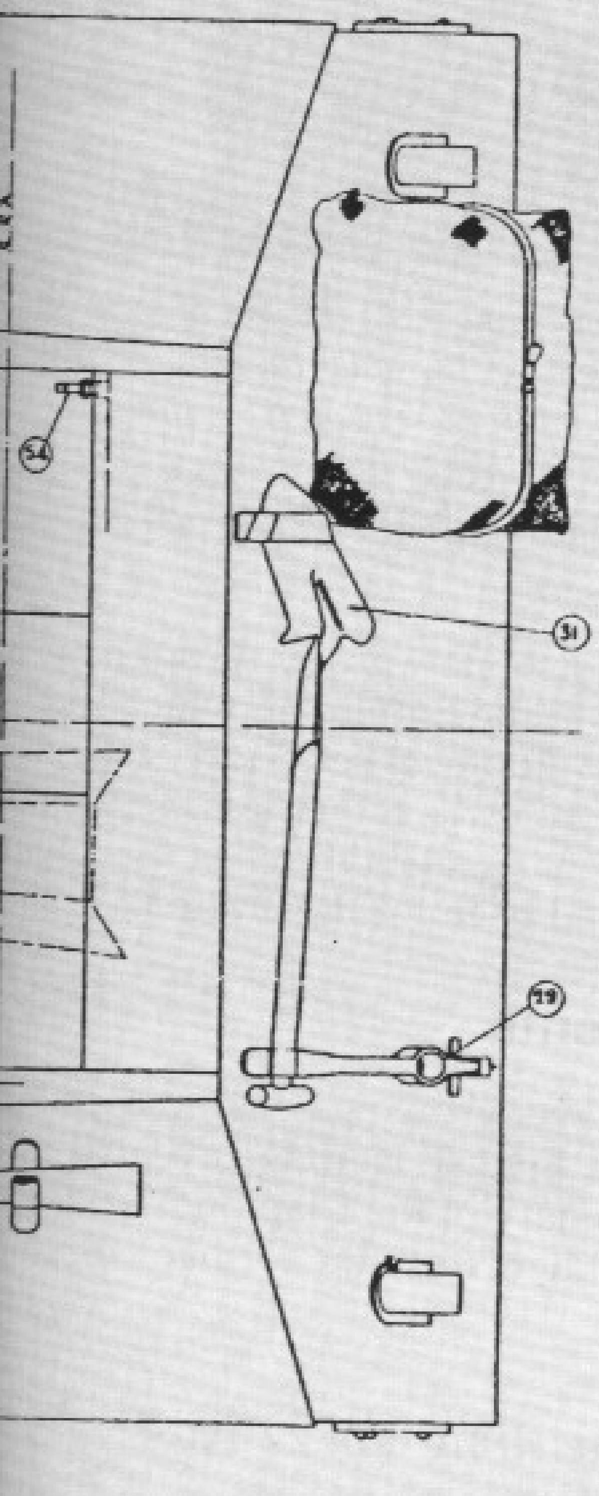
The Morris Light Recce Car Mark I kit is available price £39.95 from Accurate Armour Ltd., Units 15-16 Kingston Industrial Estate, Port Glasgow, Inverclyde, Scotland PA14 5DG. Tel: 01475 743955. ■

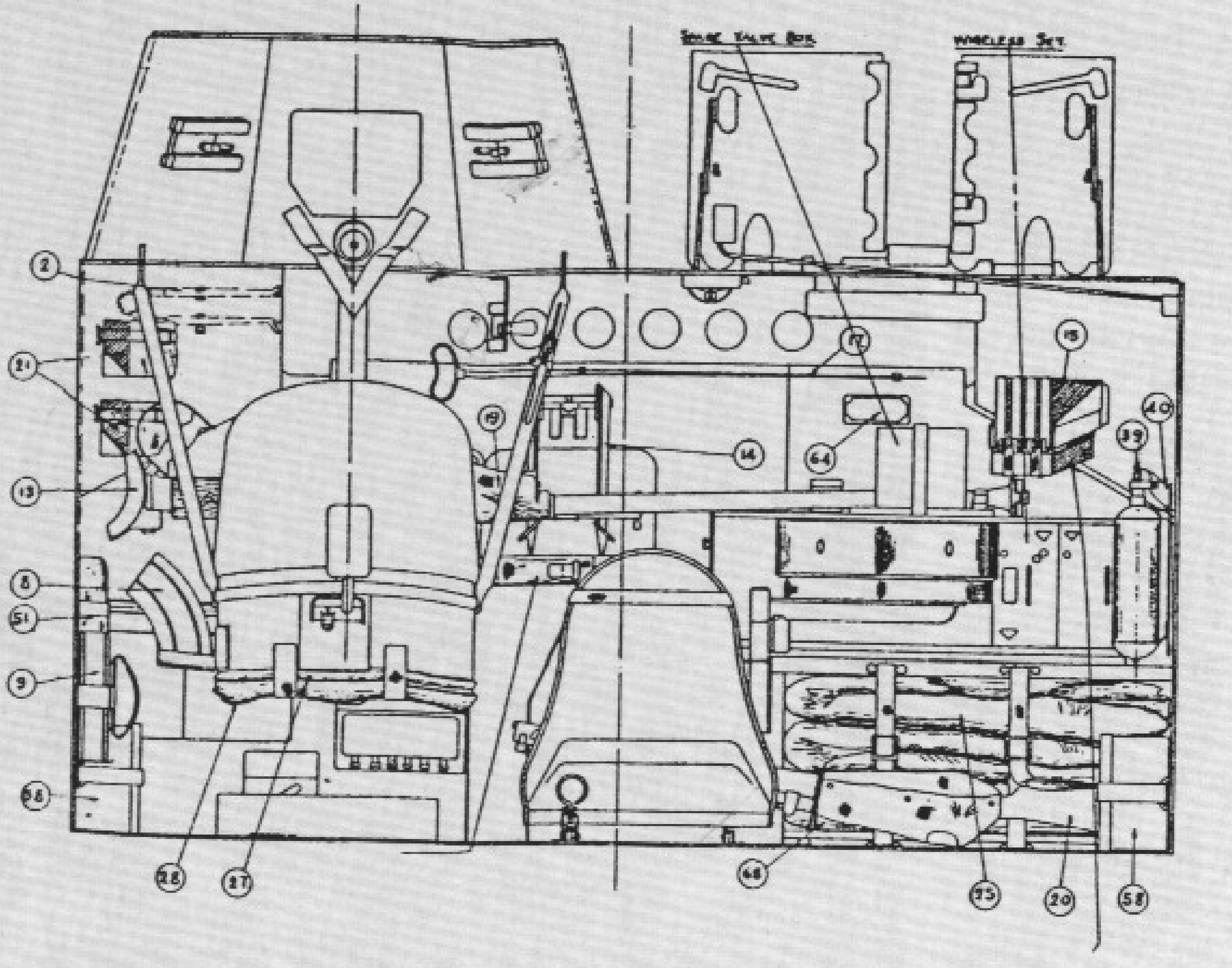


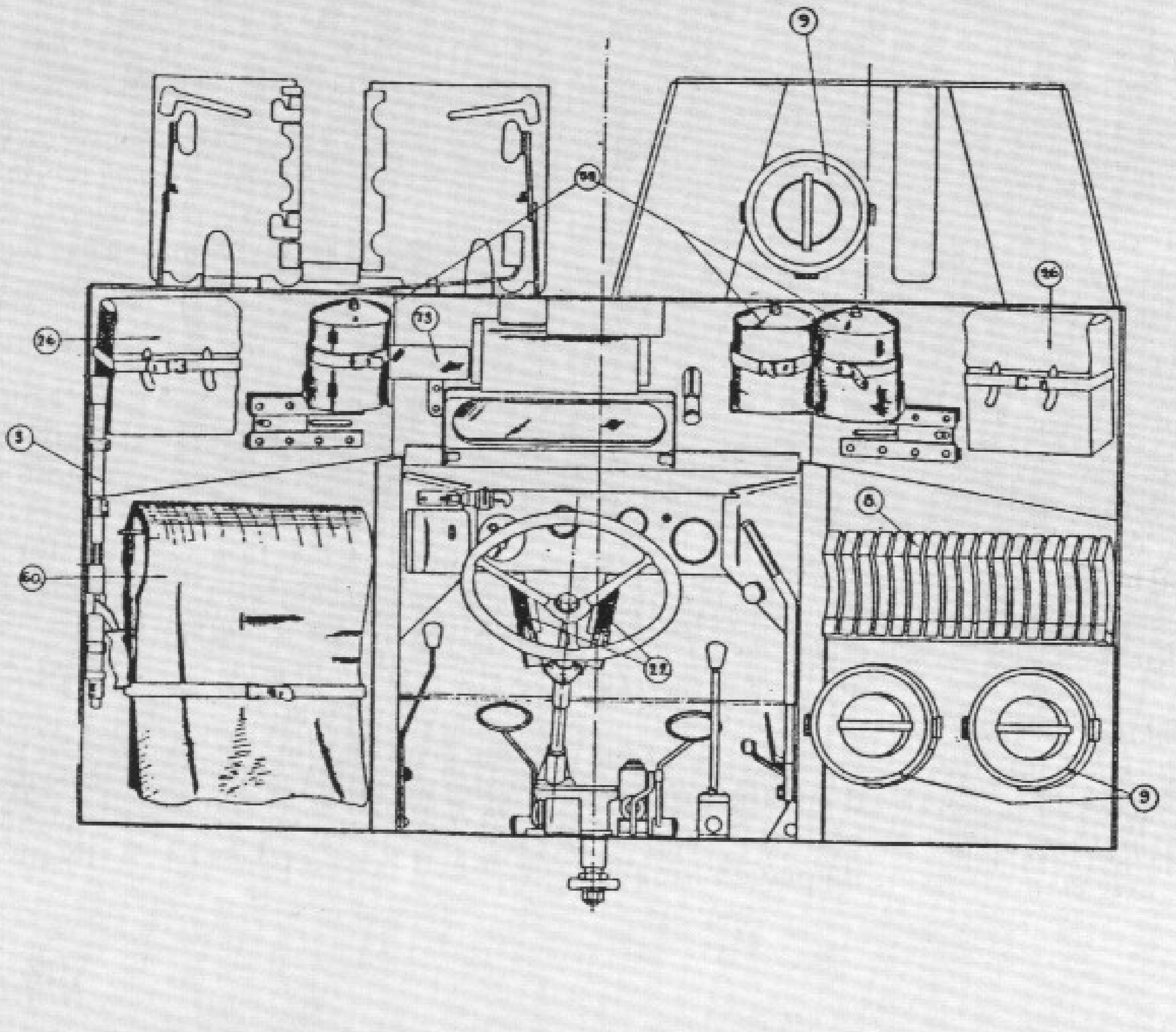
*Morris recce cars of the Royal Air Force Regiment in Palestine. These were named after Walt Disney characters from Snow White and the Seven Dwarfs with a appropriate full colour artwork on the turrets. 'Happy' is in the lead.*

## MENT
## AGE
## RAM







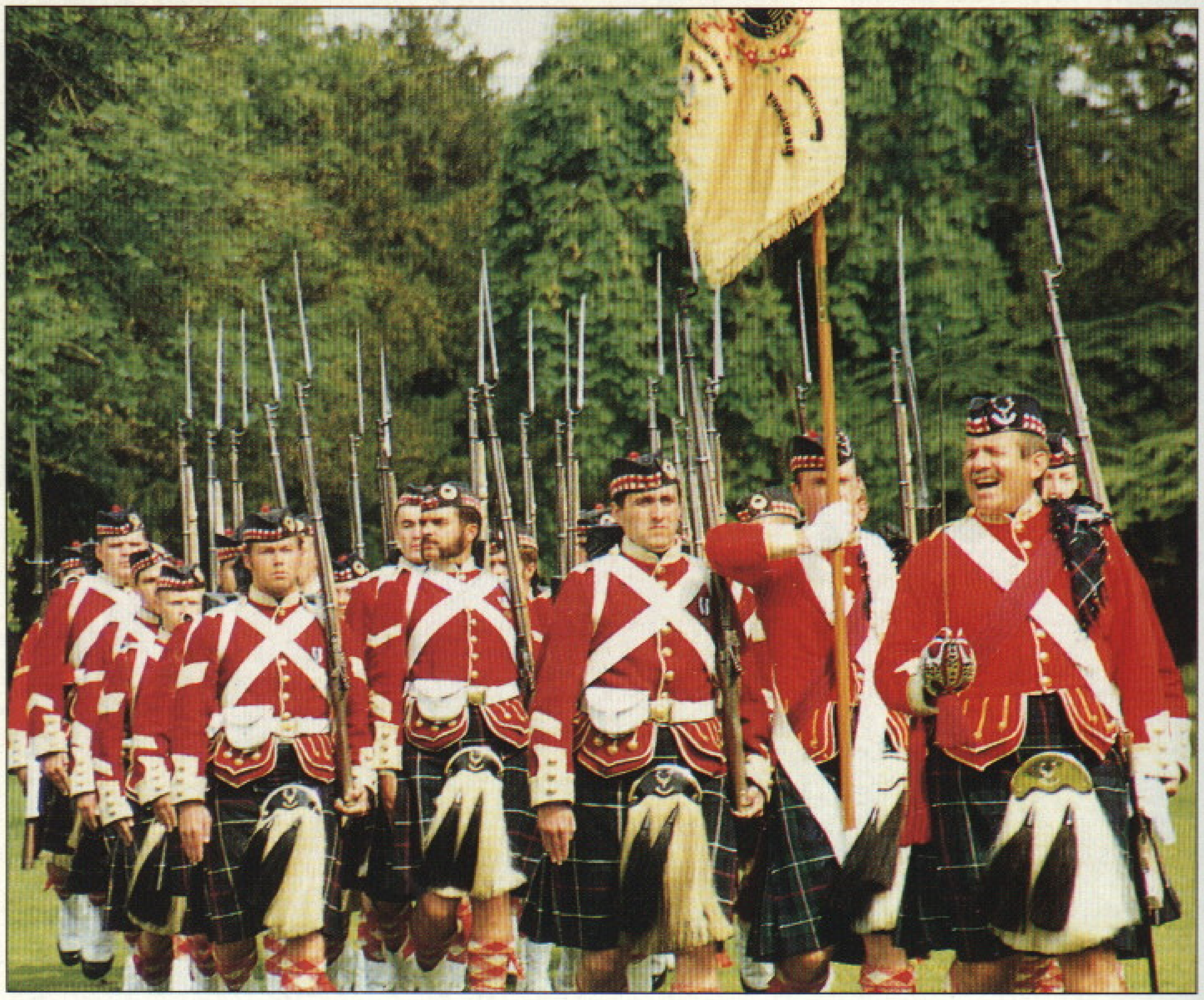


1. Bren Gun
1A. Bren Magazine Brkt.
2. Bren Bipod
3. Spare Barrel
4. Cartridge Case Deflector
(2) 5. Bren Cylinder Cleaning Rod
(2) 6. Cleaning Rod
7. Bren Wallet
8. Bren Magazines
9. Bren Drums
10. Bren Turret Mounting
(2) 11. Bren Return Spring
13. Boys Rifle
14. Boys Rifle Bipod
15. Boys Magazines
(2) 16. Boys Tools
17. Boys Cleaning Rod
(2) 18. Bristle Brush
19. Boys Breech Cover
20. Rifle
21. Bandoliers
22. Triplex Blocks
25. Greatcoats
26. Haversacks
27. Anti-Gas Suits
28. Anti-Gas Capes and Gloves
29. Pick Head
30. Pick Helve
31. Shovel
36. Map Case
(3) 37. Jack
(3) 38. Jack Handle
39. Fire Extinguisher
40. Extinguisher Brkt.
42. Oil Can
43. Oil Can Holder
46. Camouflage Net
(3) 47. Towing Rope
(3) 48. Non-Skid Chains
(4) 49. Tyres, Tubes and Bead Spacers
(1) 50. Tyre Gauge
51. Air Pump and Hose
52. Wheel Brace
(5) 53. Dipstick
54. Spark Plugs and Holder
55. Oil Funnel
(8) 56. Tool Roll
(1) 57. Tools
58. Ration Boxes
59. Water Bottles
60. Blankets
61. Portable Cooker
62. Waterproof Cover
(6) 63. Lubrication Chart
64. Inscription Plate
65. Ground Sheets
(2) 66. Bleach Powder
(2) 67. Anti-Gas Ointment
(1) 68. Screwdriver
(1) 69. Hammer
(1) 70. Spanner
(1) 71. Pliers
(8) 72. Grease Gun
(7) 73. Driving Mirror
74. Bridging Sign Plate
77. Smoke Discharger
78. Smoke Generators, Caps and Charges (in box)

*The drill of the 78th Highlanders is second to none. In this photo the Highlanders are going through the various stages of bayonet drill to the beat of the drum. Besides the infantry the Highlanders brought their own pipes and drums with them too.*

# Victoria's Glory

**Ian Castle describes the scenes at this year's English Heritage re-enactments for the centenary celebrations of Queen Victoria's Diamond Jubilee**



*The rain-soaked 78th Highlanders without their somewhat bedraggled feather bonnets. At the end of their display the Highlanders marched past the crowd just as the officer commanding gives the order to 'Eyes Right!'. The men all carry the Snider-Enfield breech-loading rifle which was introduced in 1865, converted from the Enfield rifle. The 78th wore a kilt of MacKenzie tartan and had buff coloured facings to their doublets. The men are all wearing their Centenary medals awarded at the parade at St. Paul's Cathedral on 22nd June.*

In Britain the summer of 1897 was a time of great anticipation and excitement. The greatest Empire the world had known was about to celebrate the Diamond Jubilee of its reigning monarch. It was the 60th year of Queen Victoria's Ascension to the throne. During Victoria's rule the Empire had grown from an area approximately two million square miles to an incredible 11 million, almost a quarter of the earth's land mass. Almost 400 million people, spread across all five continents, honoured Victoria as their sovereign. Now, the peoples of Empire were coming to London to pay tribute to their Queen-Empress.

The great day was 22nd June 1897. The procession was to leave Buckingham Palace and pass along Piccadilly, around Trafalgar Square, through Fleet Street and on to St. Paul's Cathedral where a brief service was to be held on the steps.

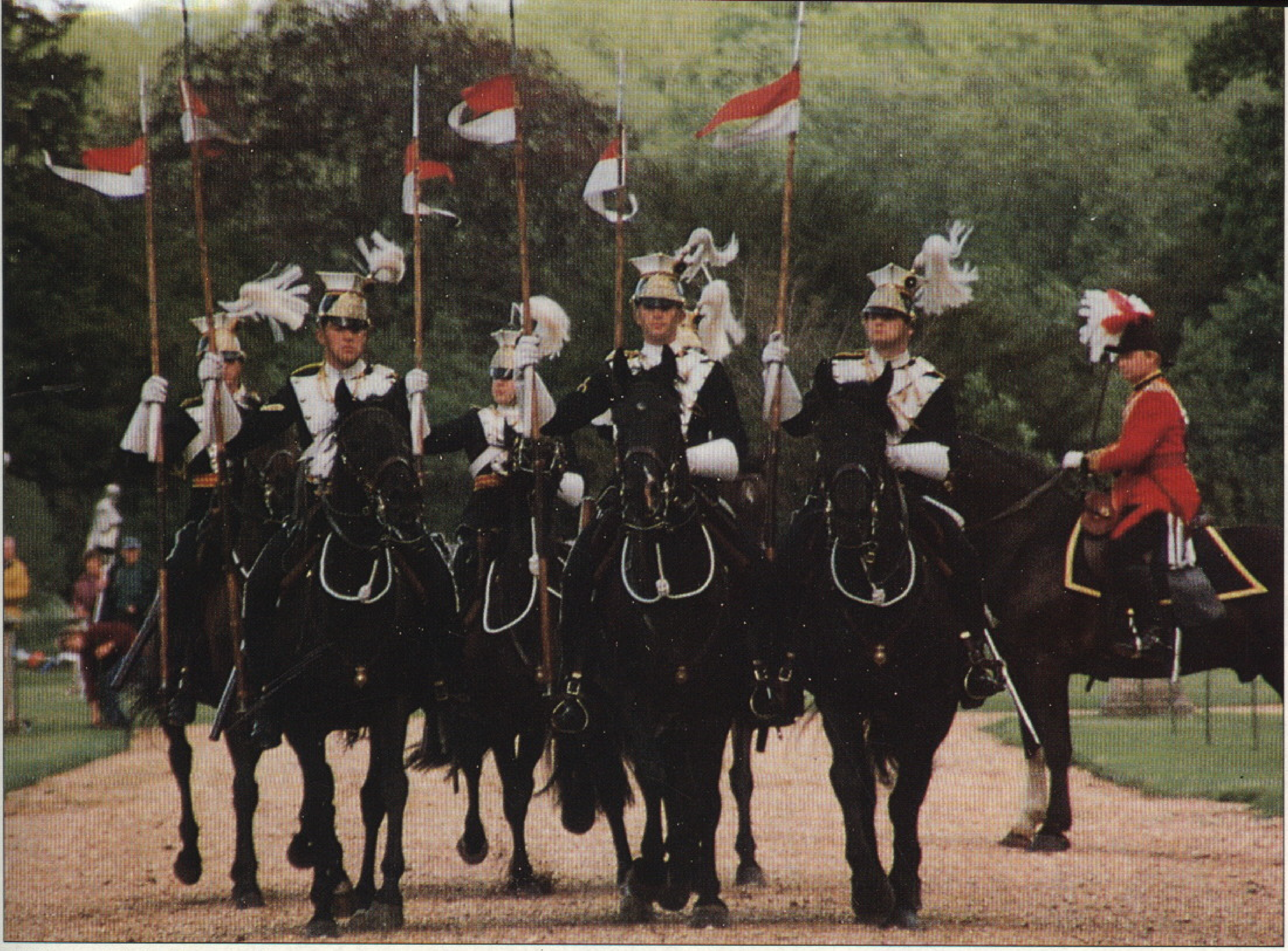
Queen Victoria at 78 years old was too frail to climb the steps and enter the Cathedral itself. The Queen's Procession, consisting of representatives of British cavalry and, artillery regiments along with the royal representatives of the world and officers of the armies of the Empire was to be preceded by the Colonial Procession, the great manifestation of the Soldiers of the Empire. Here rode and marched soldiers from Canada to Australia, New Zealand to South Africa, Borneo to Bermuda and all points in between. Never before had such an assembly been seen. The vast crowds that converged on London for the big day were in raptures of excitement as the parade passed them by. George Steevens, the reporter for the *Daily Mail*, wrote:

*Between the carriages rode and tramped the men ...who carry British peace and British law into the wildest places of this earth. Lean, hard-knit, Canadians, long-legged yellow Australians, all in one piece with their horses, giant, long-eyed Maoris, sitting loosely and leaning back curiously from the waist; burned South Africans; upstanding Sikhs, tiny lithe Malays and Dyaks; Chinese with a white basin turned upside-down on their heads; grinning Hausas, so dead black that they shone silver in the sun - white men, yellow men, brown men, black men, every colour, every continent, every race, every speech - and all in arms for the British Empire and the British Queen.*

Throughout the day the crowds, the soldiers, the princes of Empire and the Queen bathed in a glorious patriotic pride overtly displayed for all to see. It had been a perfect day the sun had shone warmly throughout in its own tribute to the Empire on which they said the sun would never set. Sadly, 100 years later, the sun was rather less enthusiastic for the centenary celebrations of this great event than it had been for the original!

## Special Events

As part of it's ever growing programme of Special Events, English Heritage decided to mark the centenary of the Diamond Jubilee by inviting soldiers from the former Empire



*17th Lancers Display Team march past a senior army officer. In this photo the Polish influence on British Lancer uniforms is very clear. The square-topped helmet known as the Chapka and the tunic, with its reversible plastron front, based on the Polish Kurtha, owe their origins to traditional Polish designs. The lance itself was 9ft long and could be of bamboo or ash, topped with a red over white pennon and steel point. The steel shoe of the lance fitted into a small leather bucket fixed to the right stirrup when on the march.*

*The 17th Lancers Display Team. Made up of riders from The Troop, a multi-period cavalry re-enactment group, the Lancers wear the full dress uniform of the 1890s. The 17th Lancers were one of the best known regiments in the army, having spearheaded the Charge of the Light Brigade in the Crimea and successfully charged the Zulus at the Battle of Ulundi. Besides the lance the Lancers are also armed with the 1885 pattern sword and the Martini-Metford .303in carbine. The leather gauntlets were expected to offer some protection to the hands during combat.*

to England once again. But this time the soldiers were to be re-enactors and their visit was to create the largest gathering of Victorian period re-enactors ever assembled in this country. To join the home-grown groups and be a part of the celebrations they travelled from Australia, Canada and Malta, following in the footsteps of their Victorian forefathers.

## Victorian Mounted Rifles

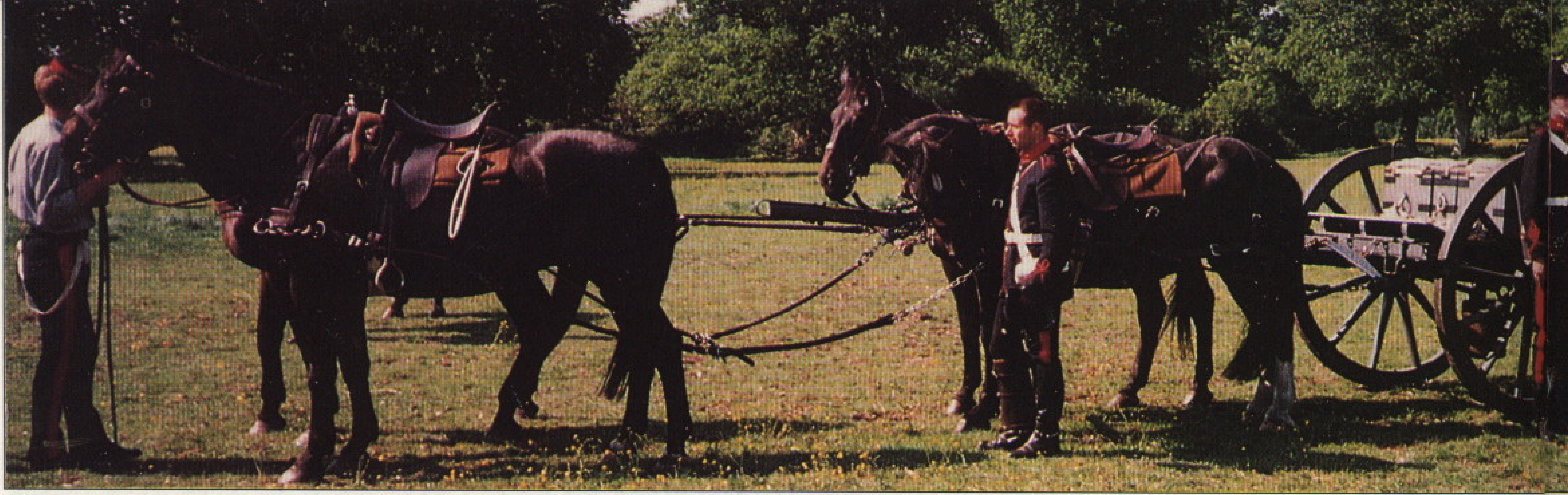
From Australia came the men of the Victorian Mounted Rifles. As members of the Victorian Re-enactment Society they are a wide range of mounted units which served in Australia, operating within the period 1788 to 1918. The original Victorian Mounted Rifles were formed in Victoria in 1885 as a response to fears of Russian, Japanese and Chinese interest in Australia following the withdrawal of the British garrison. They were not required to train as regular soldiers, their ability to ride well and operate as mounted infantry being of paramount importance. They wore khaki tunics, cord breeches and slouch hats and it was in this uniform that they came to England to take part in the Diamond Jubilee parade in 1897. Similarly attired they returned in 1997.

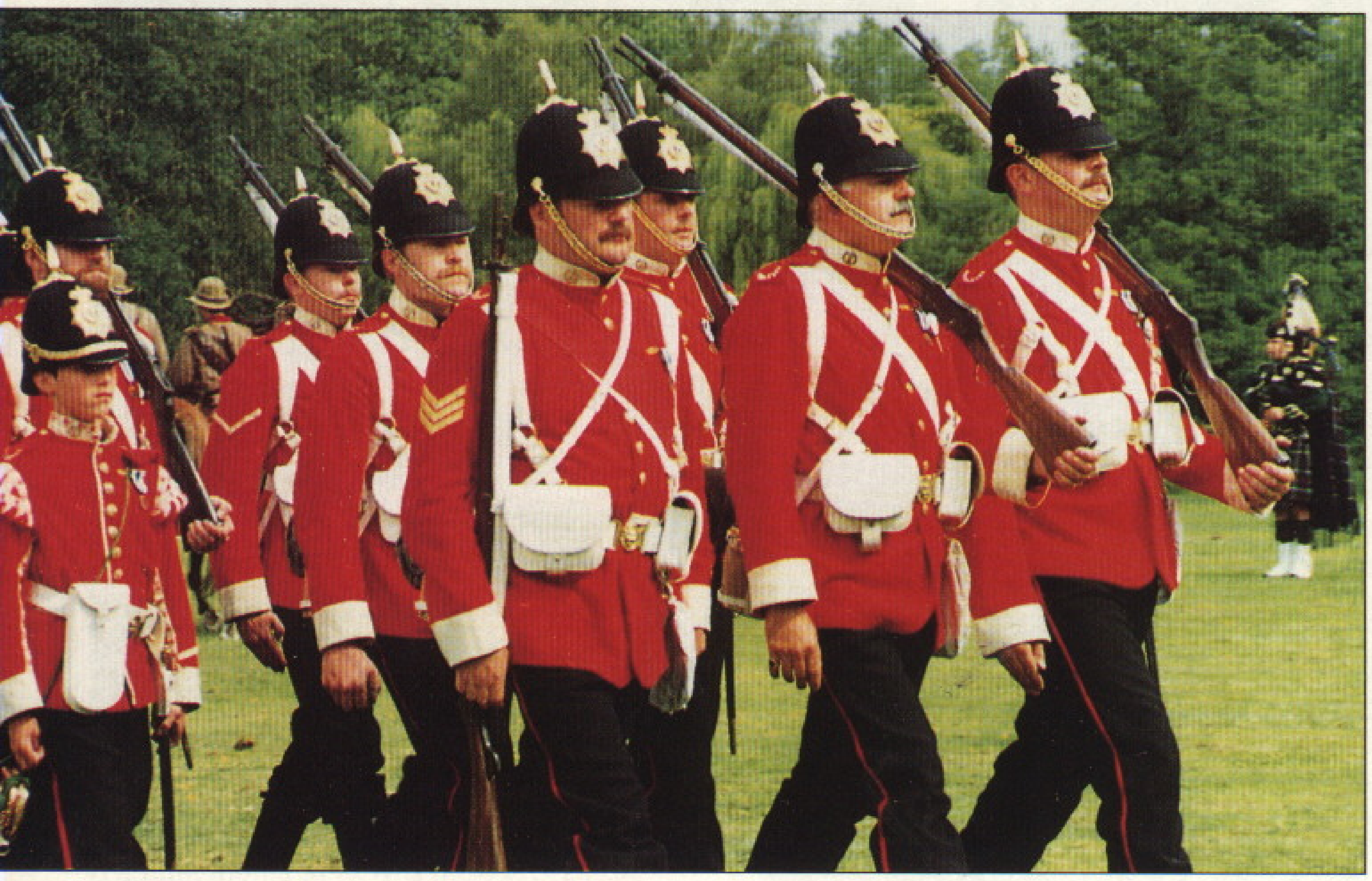
## Canada's 78th

They were joined in England by the men of the 78th Highlanders from the Halifax Citadel in Nova Scotia, Canada. This unit recreates the famous Highlanders of the 78th as they would have appeared in 1869-1871 when the Regiment were stationed at the Citadel. The members of the unit are mainly students and, as part of an initiative by Parks Canada and the Halifax Citadel Regimental Association, they occupy the Citadel each summer as pan of a living history programme. Applicants wishing to join the unit have to undergo a series of rigorous tests before they are admitted to its ranks.

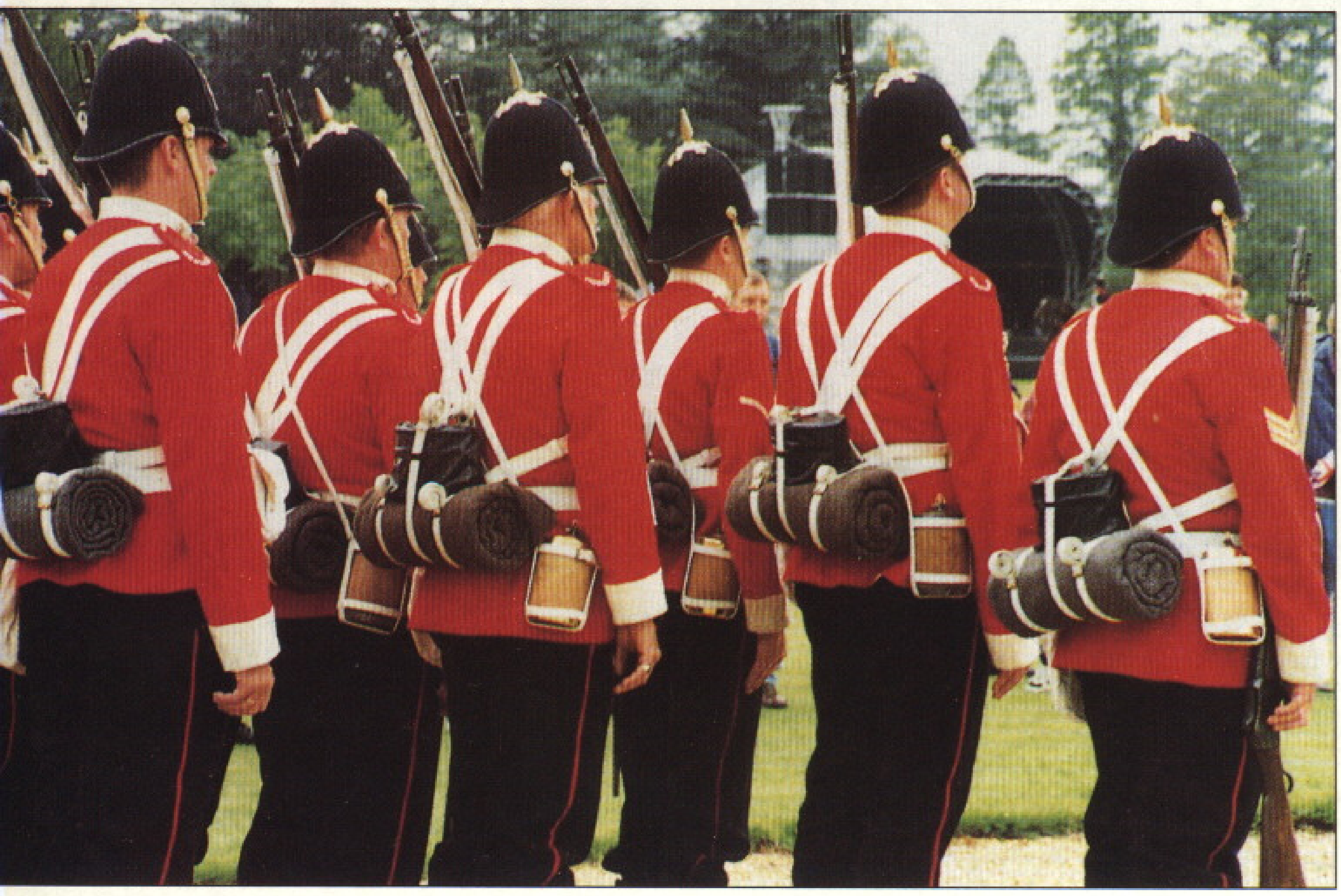
## Maltese Heritage

The third group from overseas were The Heritage Interpretation Group of Malta which is part of the National Heritage





ABOVE: The Die-hard Company of the 1st Battalion Middlesex Regiment c.1886. The Die-hards are the re-enactment group of the Victorian Military Society and have made tremendous progress in the four years they have been in existence. The uniform is that of the post-Cardwell Reforms of 1881, hence the white facings adopted by all English regiments, and is as would have been worn on Home Service, The Die-hards are armed with the Martini-Henry, which superseded the Snider-Enfield, and was the first purpose-built breech loader adopted by the British army. BELOW: An interesting rear view of the uniform of the Die-hard Company. The leather equipment is the 1882 Valise pattern which was a minor variation from that which had been worn in the Zulu War and First Boer War. Over the right shoulder is the white haversack which could be used to carry one day's rations and over the left shoulder is the wooden 'Oliver' pattern water-bottle. In the middle of the soldier's back is the rolled greatcoat and mess-tin.



*ABOVE: The four-horse team, limber and 16pdr R.M.L. field gun of the Portsdown Artillery Volunteers. For many years this piece, as a barrel, formed part of the collection of the Royal Armouries at Fort Nelson. Now, after eight year's hard work, it is part of a complete working gun team again. This type of gun was introduced into the British Army in 1872 but was superseded briefly by the 13pdr RML. Then in 1885 by the first breech loader, the 12pdr was introduced. From 1889 the old 16pdrs were issued to the Volunteers and remained in their service until 1902.*

Foundation. This is a voluntary national body devoted to the preservation of Malta's 7,000 years of man-made heritage. The Interpretation Group were formed in 1996 and are uniformed as the Royal Malta Fencible Artillery of the latter part of the 19th century. The original unit had been formed by the British to provide artillery men for the vast arsenal of guns that formed the island's defences. The RMFA were a regular unit and their uniforms followed the Royal Artillery pattern of the time, the only differences being the helmet plate and the Maltese Cross on the shoulder straps. The Group are based at Fort Rinella on Malta which contains an Armstrong 100-ton Rifled Muzzle Loader.

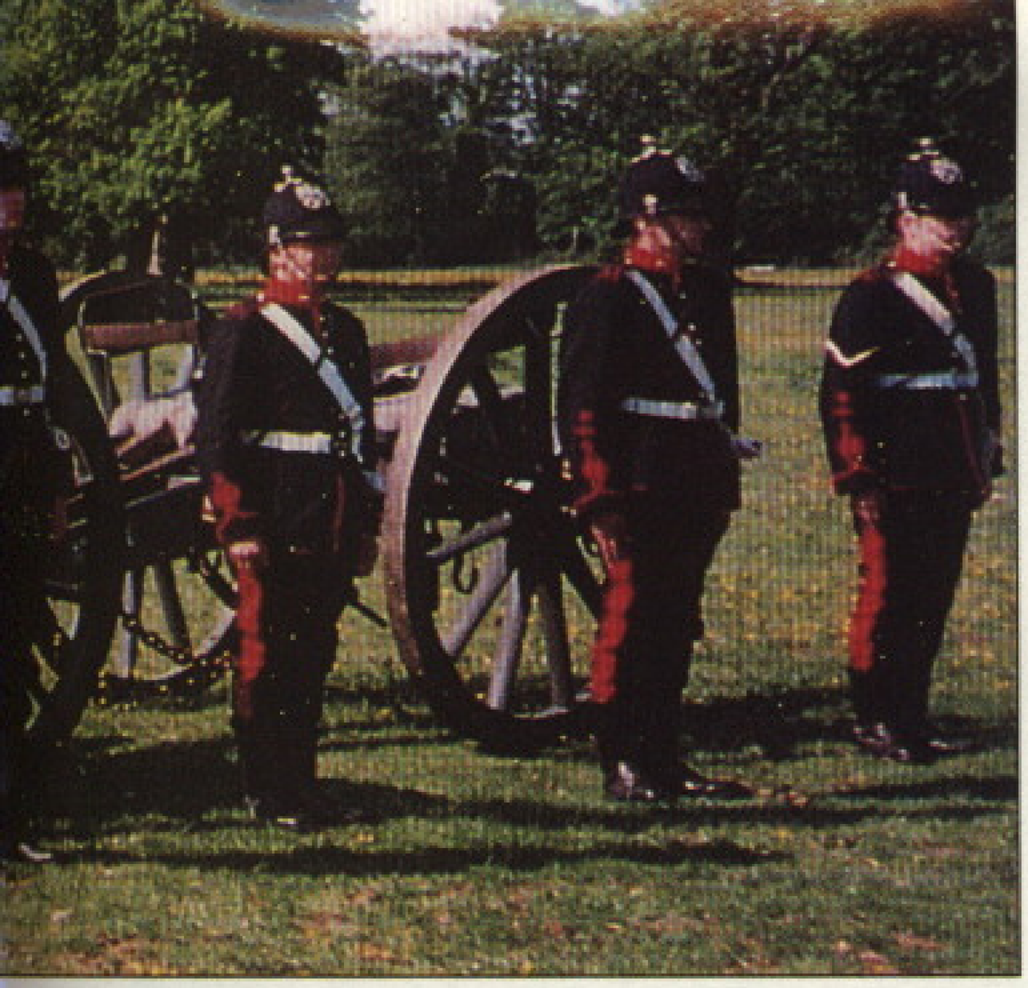
## UK contingents

From the UK there were also three contingents, of cavalry, infantry and artillery. The cavalry element was provided by the 17th Lancers Display Team, in full dress uniforms of the 1890s period. The Display Team is the result of a unique collaboration between English Heritage, The Troop (who are a multi-period cavalry re-enactment group) and the Queens Royal Lancers, the modern day successor to the 17th Lancers.

The Victorian Military Society's own re-enactment group provided the infantry. As the Die-hard Company of the 1st Battalion Middlesex Regiment they gave a view of a British infantry detachment on home service in the mid 1880s.

## Artillery

Finally the artillery was supplied by the Portsdown Artillery Volunteers, the uniformed members of the Palmerston Forts Society. The P.A.V. also brought along two very impressive 16pdr Rifled Muzzle Loading Field Guns which had been restored to full working order by the Royal Armouries based at Fort Nelson. But perhaps even more impressive was the fact that the P.A.V. were also accompanied by a full gun limber and four-horse team. Therefore, to the best of my knowledge, a full team and limber were used in a re-enactment in this country for the first time. The project to complete the limber in time for the centenary



celebrations was as a result of the expertise of the Royal Armouries, the financial aid of English Heritage and the practical skills of the King's Troop Royal Horse Artillery who provided the drivers.

## Exactly 100!

The events organised by English Heritage beg at Wrest Park in Bedfordshire on the weekend of 21st-22nd June, the Sunday being the exact 100th anniversary of the Diamond Jubilee parade. Throughout the weekend all groups performed with great enthusiasm the drifts, skills and practices of soldiers of the Victorian age - despite the weather, which appeared to turn particularly nasty each time the 78th Highlanders entered the arena. In fact, it rained so hard on the Highlanders on the first day that they had to abandon their feather bonnets as the black dye in their plumes was running and staining their doublets!

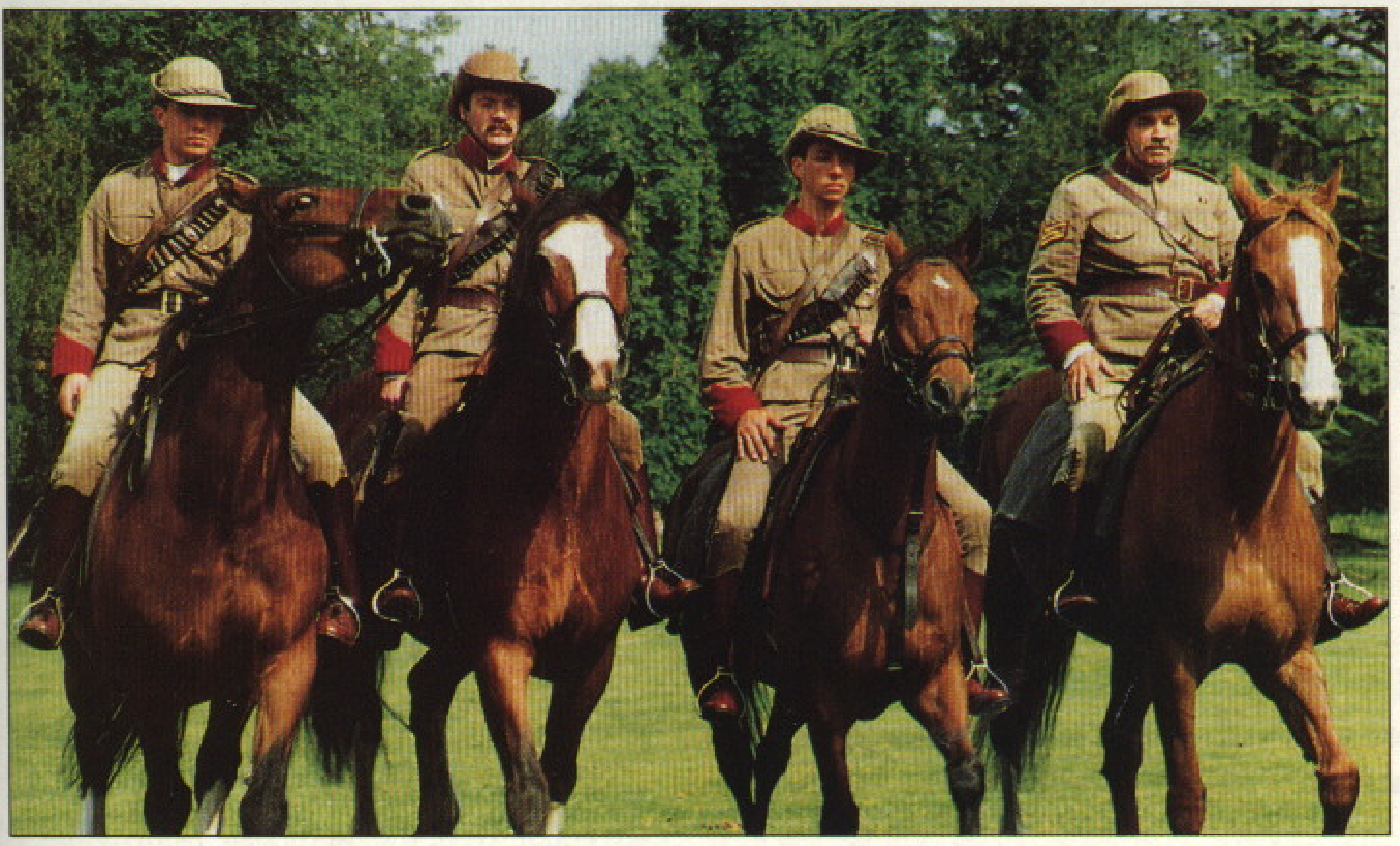
Bayonet drill, firing practice with Martini-Henrys and Snider-Enfields, swordsmanship, the charge with the lance and the deafening roar of two 16pdrs were all on show. However, in between this very full programme of events at Wrest Park all the participants found time to travel down to London early on the morning of 22nd June to stage a centenary parade at St. Paul's Cathedral where all the participants were awarded a commemorative medal.

## Manoeuvres

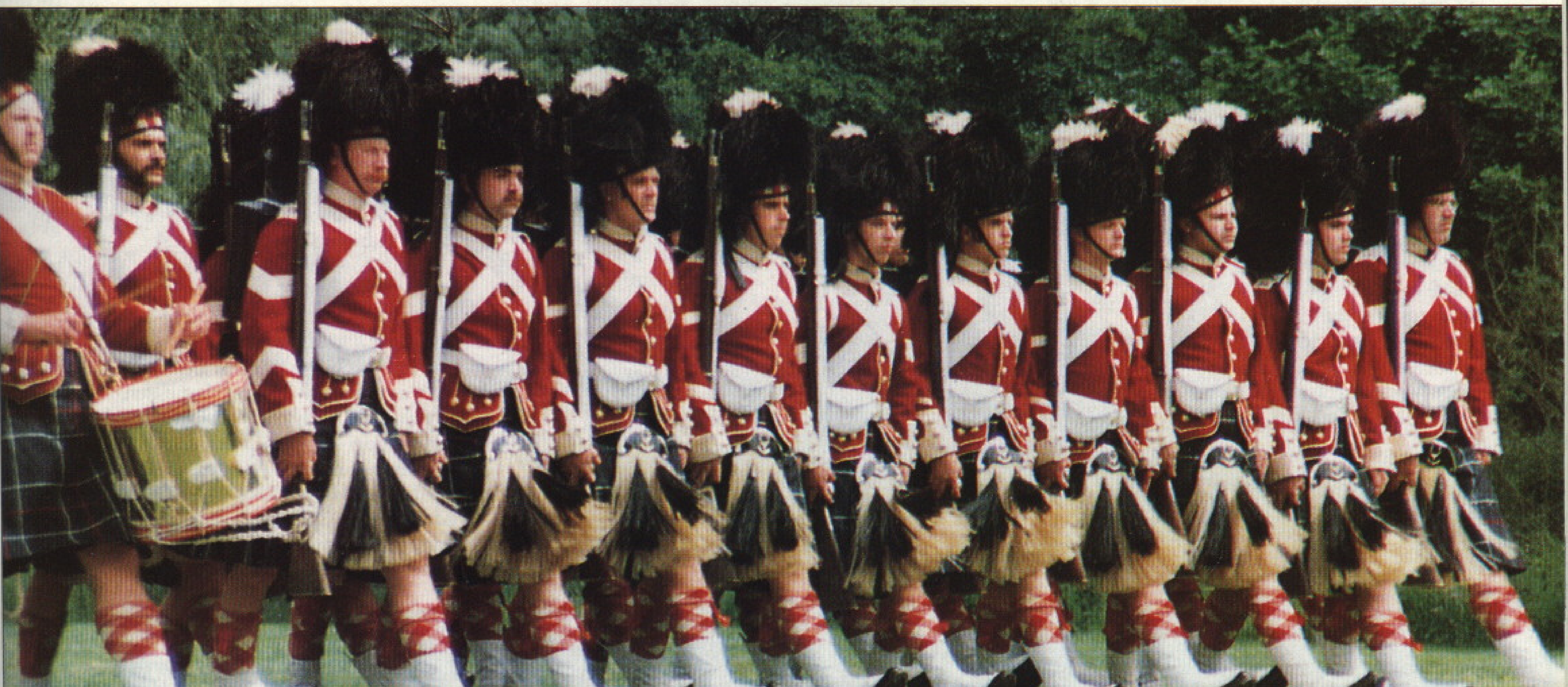
After Wrest Park the re-enactors moved on to Salisbury Plain where it had been planned to organise some Victorian military manoeuvres. However, the rain took a hand once more ensuring the army manoeuvres bore more than a passing resemblance to the Royal Navy's Spithead Review. The final weekend saw the whole force move to Yorkshire for displays at Richmond Castle and Brodsworth Hall - followed by the rain!

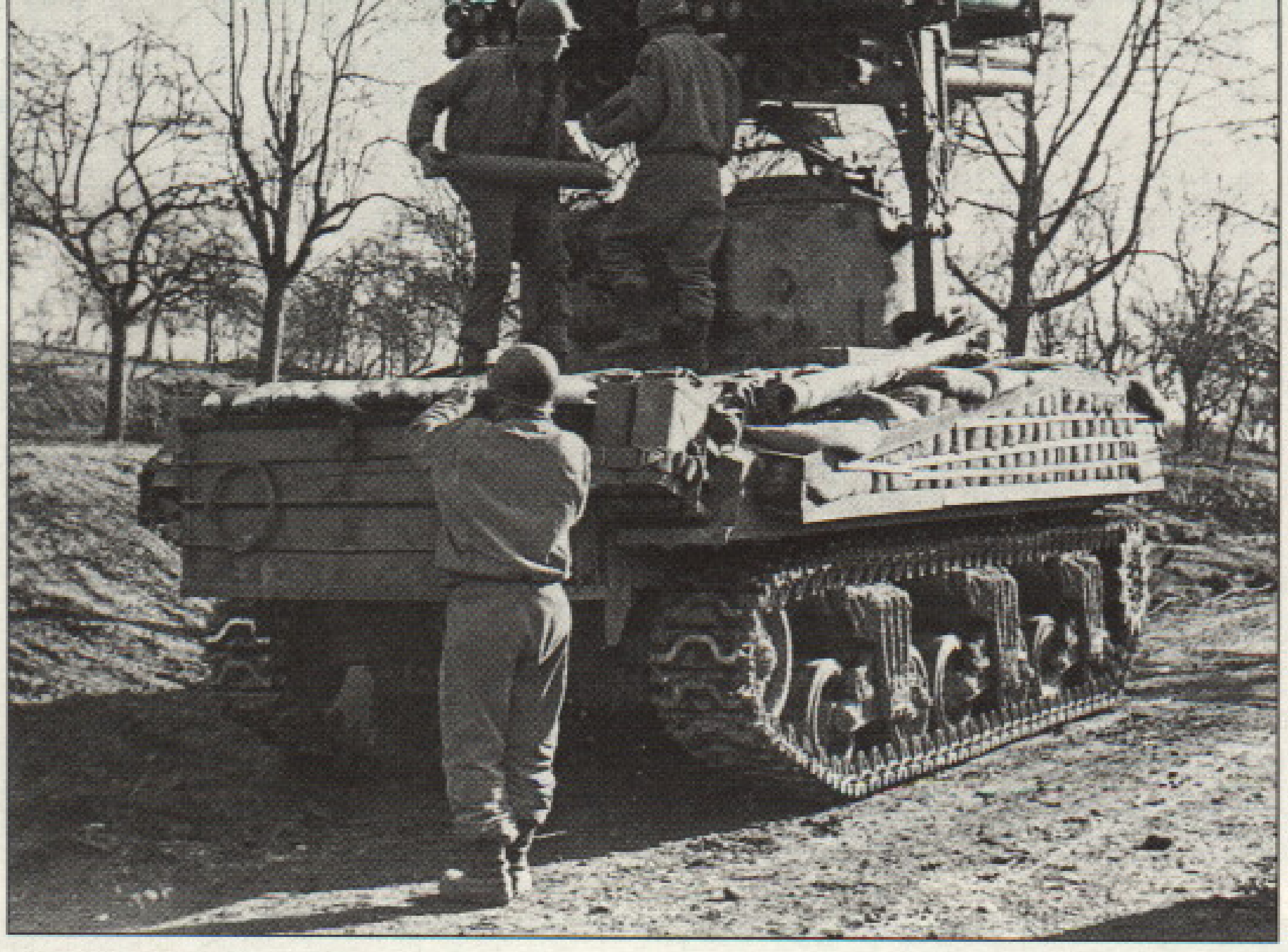
## Unique

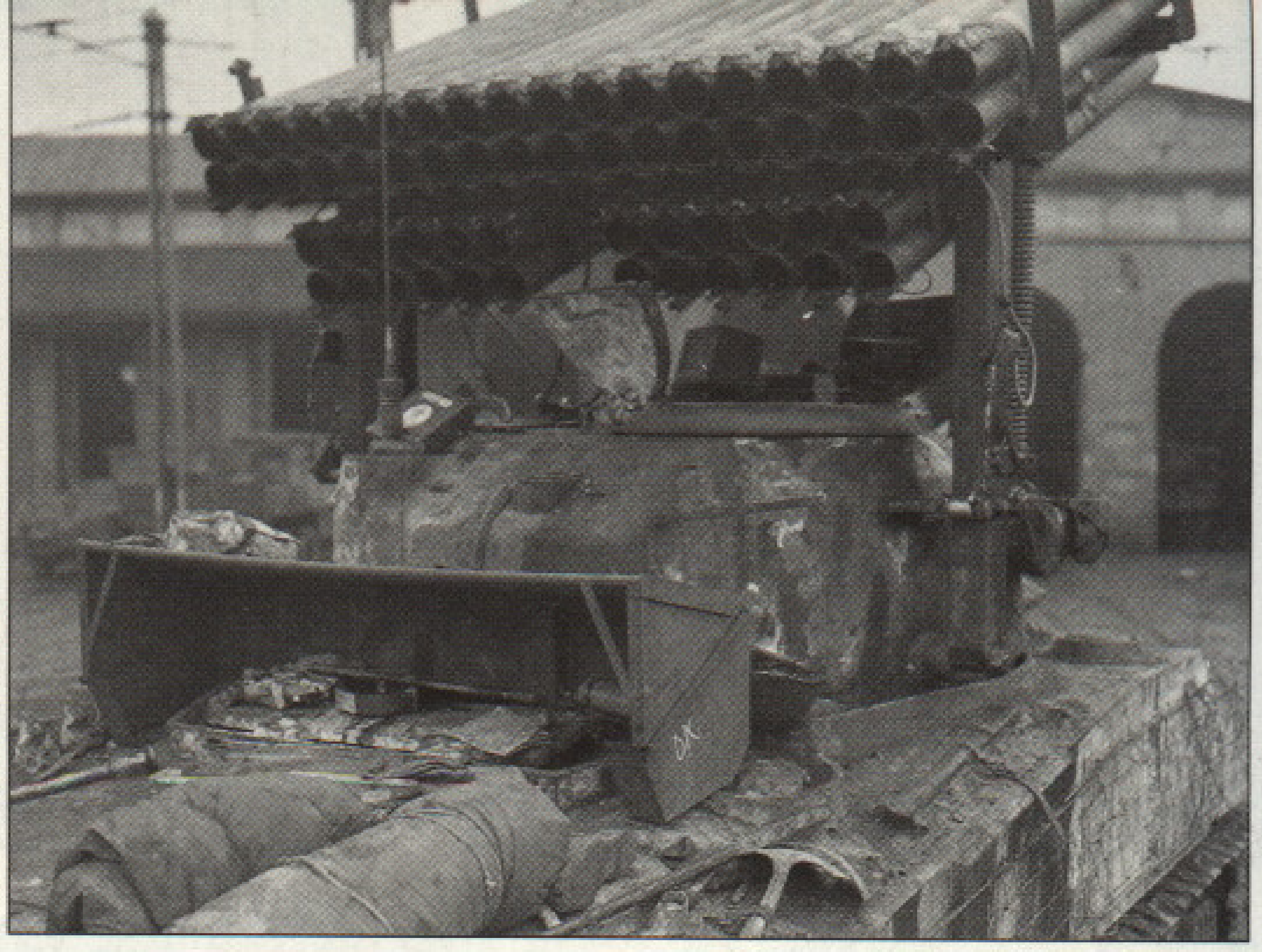
For anyone who was lucky enough to witness these events it was a very special occasion for which English Heritage should be congratulated. For most re-enactors in this country it was a once in a lifetime opportunity to meet fellow Victorian enthusiasts from across the world and see how they 'do it'. The precision drill of the Canadians had to be seen to be believed, the horsemanship of both cavalry units was superb and to be able to see a fully manned horse drawn gun team and limber in action was unique. What's more, Queen Victoria herself, accompanied by the Prince of Wales, was present at Wrest Park to witness the events for themselves. I feel sure she was most amused! ■



*ABOVE: The Victorian Mounted Rifles of the Victorian Re-enactment Society from Australia. The Australians who took part in the Diamond Jubilee procession provided a clear indication of the way uniforms were changing. By the end of the Boer war most British mounted units were dressed in a similar style. The VMR were armed with the full-length Martini-Henry rifle which is carried slung across the back with the ammunition contained in a bandoleer. BELOW: The 78th Highlanders of the Halifax Citadel, Nova Scotia, as they would have appeared on overseas service in Canada between 1869-1871. This photo shows them marching in perfect step in their full dress uniform. All items of uniform and equipment have been painstakingly researched by members of the group, and tailored in the 19th century style, even down to the thread count of original items. Some 50 members of the group travelled to England to take part in English Heritage's Diamond Jubilee Centenary Commemoration.*







*ABOVE LEFT: Although no markings can be seen in this view (and there was no caption) details such as the log on top of the sandbags and the one plain disc roadwheel prove this to be 'Annabelle' as referred to in the text. RAC Tank Museum. ABOVE RIGHT: Close up of a Calliope mounted on an M4 showing details of the intake protection box and lid. Taken on the 8th February 1945 in Luxembourg it shows the rear of the tank from the well-known photo with the bronze head of Hitler on the front track guard.* National Archives.

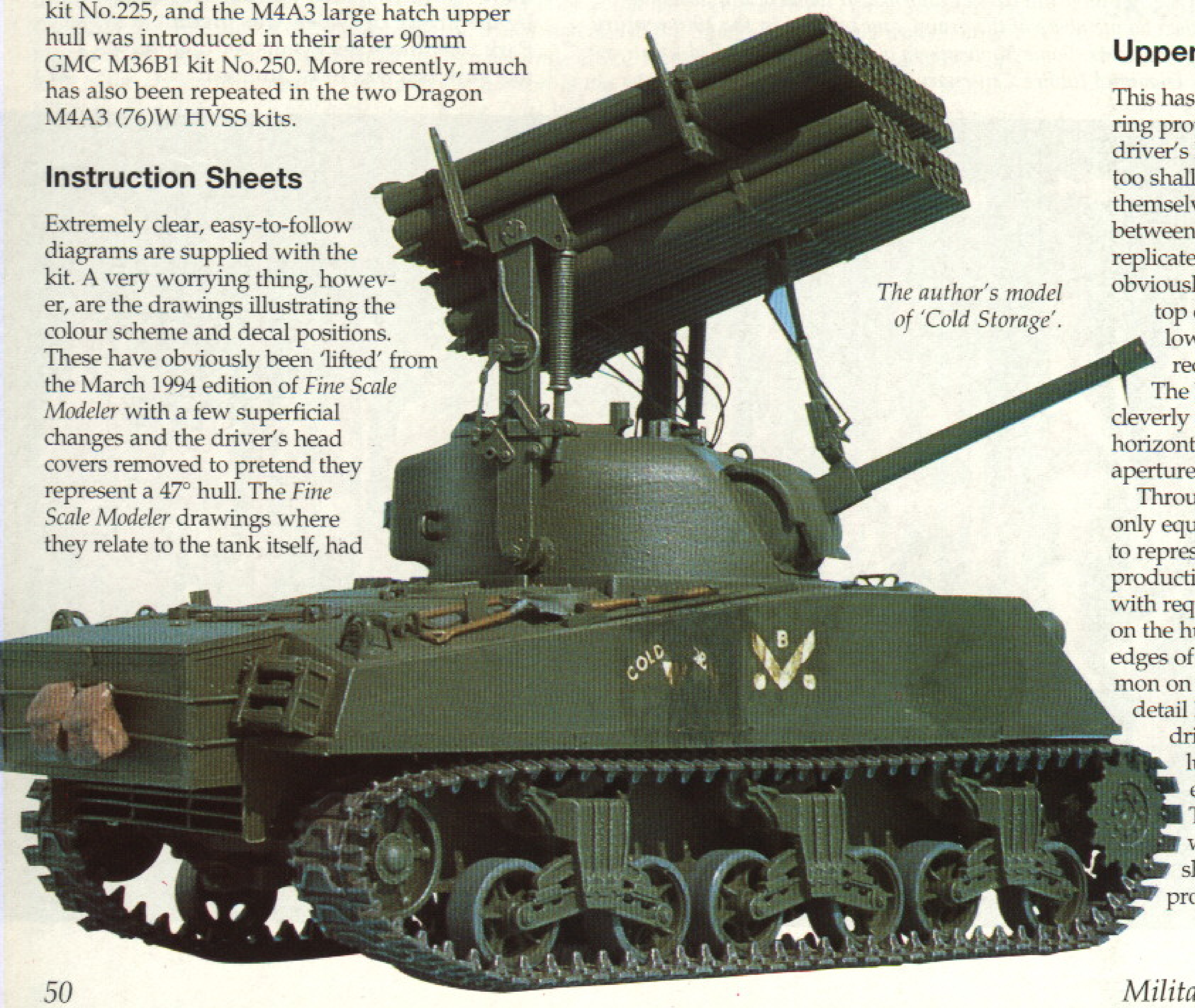
# Sherman Calliope

**Phil Dyer builds and corrects Italeri's 1:35 scale kit of the M4A3 with T34 'Calliope' Rocket Launcher, provides scale drawings of the vehicle and details its development and use by the US Army**

Other than the 75mm raised bustle turret and the rocket launcher assembly itself, many of the parts of this kit are already old acquaintances to Sherman kit converters. The lower hull and bogie brackets originally appeared 17 years ago on Italaerei's (as they then were) still very creditable M4A1 (76)W kit No.225, and the M4A3 large hatch upper hull was introduced in their later 90mm GMC M36B1 kit No.250. More recently, much has also been repeated in the two Dragon M4A3 (76)W HVSS kits.

## Instruction Sheets

Extremely clear, easy-to-follow diagrams are supplied with the kit. A very worrying thing, however, are the drawings illustrating the colour scheme and decal positions. These have obviously been 'lifted' from the March 1994 edition of *Fine Scale Modeler* with a few superficial changes and the driver's head covers removed to pretend they represent a 47° hull. The *Fine Scale Modeler* drawings where they relate to the tank itself, had in their turn been copied by Hubert Cance from those in Squadron Signal's *Sherman in Action*. His projector assembly drawings also having a lot in common with those of Bruce Culver's published as part of his opus on the Sherman in *IPMS Quarterly* back in the 'dark ages'.



*The author's model of 'Cold Storage'.*

These drawings have undoubtedly affected the accuracy of the kit projector assembly. I refer to the 'dark ages', as at the time the only large scale Sherman kits available for conversion were the motorised Tamiya M4-A3-E8 and a Revell or UPC M4 Composite.

## The Tank

This can be built without the rocket launcher, and as such gives a reasonable representation of an M4A3 (75)W.

## Upper Hull

This has a major flaw in that through the turret ring protector strip not being tall enough, the driver's hatches and their surrounds end up at too shallow an angle to the front. The hatches themselves are very good, as is the ventilator between them, but the cast surrounds are poorly replicated. Through the base of the turret then obviously having been located in relation to the top of the protection strip, this has ended up lower than it should, thereby incorrectly reducing the overall height.

The bow machine-gun mount, whilst being cleverly designed to be flexible, has a top sharp horizontal cut-off, rather than a bulged radiused aperture, and requires work to correct.

Through being fitted with a high bustle turret only equipped with gun ring hatch, this kit has to represent an early wet stowage vehicle when production of vision cupolas couldn't keep up with requirements. As such, the front lifting lugs on the hull weren't likely to be fitted near the edges of the glacis plate, only becoming common on late production hulls. To backdate this detail I carved away the locating bosses and drilled locating holes for the front lifting lugs further inboard, reducing their exaggerated height at the same time. The bosses for the rear view mirrors, which aren't provided in any case, should also be removed for the earlier production.

The gun travel lock (A55) is shown upside down on the assembly diagram and should be inverted before fitting. Small pieces of stretched sprue can be added to the sides of the brush guards to represent the holders for the plugs used to seal the holes when the driving and blackout light assemblies weren't in place. Early Sherman manuals stated that these light assemblies were to be stored inside the tank except when specific instructions were given for their use by the Regimental Commander no less! Later manuals merely considered them as front plate fittings; although storage space was still allocated inside. The original worry was that they might be damaged in action and not usable when required for driving at night. Experience undoubtedly put things more in perspective, when the main consideration was whether after any action the tank itself would be usable.

Early large hatch hull M4A3s weren't necessarily always fitted with the two-piece radiator cover plate as on the rear deck of the kit; although becoming standard on final production vehicles. Whilst not strictly necessary, I backdated the hull in this respect by scraping away the joining cover strip running transversely across the rear deck, the location marks for the track adjusting spanner, the sledgehammer, and one of the bolt heads each side. The lifting handles were then repositioned further forwards.

The tail light fittings and rear lifting lugs should be relocated slightly further forwards. Small vertical plates to support the engine covers when opened need to be made from plastic card, and added on top of the sponsons.

Other than the shovel and crow bar, the pioneer tools are awful and should be replaced with scratch built ones. Locations of the axe, mattock head, and shovel also need correcting on top of the right hand sponson. There was no facility for hand cranking the Ford V8 engine on the M4A3. Part number A67 should, therefore, be discarded and the location marks on the upper rear plate scraped off.

The hull side appliqué armour (parts C74 and C75) provided should never be fitted to any large hatch M4A3 and must similarly be discarded.

A thickened side lip running the length at the bottom of each sponson needs to be scraped away and replaced with three .010in thick strips 2mm wide cut and drilled to represent the track guard fixing strips each side. Before attaching these I also scribed welding runs at the front and rear of the sides of the sponsons to represent the joins to the glacis and upper rear plate.

An additional towing cable locator made from .020in plastic card should be added on top of the hull in the corner near the driver's hatch, and drainage holes should be drilled into the sides of the fuel filler cap guards.

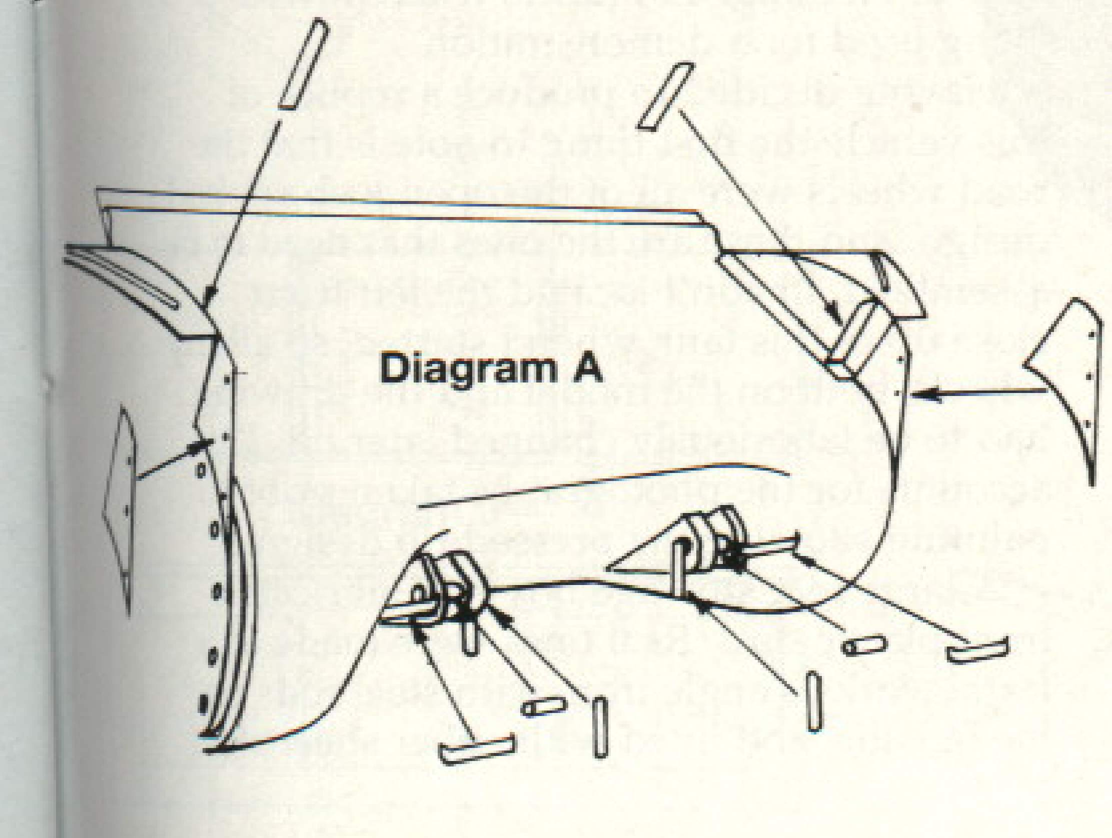
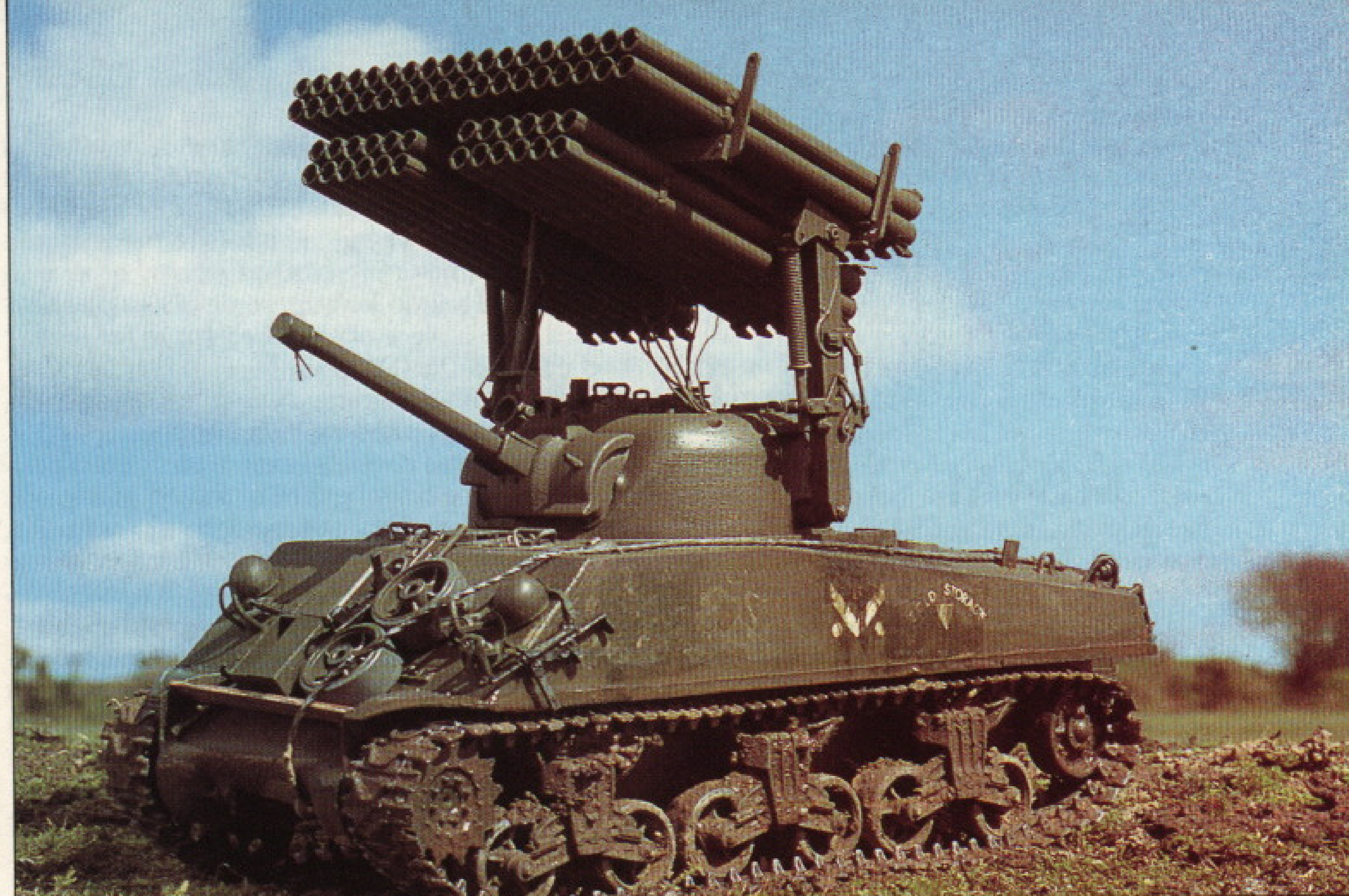


Diagram A


*The completed model photographed in a scenic setting in natural light against a natural background.*

*A rear view of 'Cold Storage' firing. The way a pair of rockets are already staring to veer away from each other shows the inherent lack of accuracy of the system.* National Archives.

## Lower Hull

This is the same as that supplied with their M4A1 (76) W other than a new rear plate to suit the different engine. The front towing lugs should have a strip made from an aluminium can added to represent the incorporated step. A little piece of stretched sprue should be fitted between each pair of lugs as the towing pin with another alongside to represent its handle. This design of twin-lobed towing lug with a chained pin, introduced with the pointed differential housing, was to enable tow cables to be connected directly to the tank without the necessity of shackles, which could be missing when most needed.

After assembly, a small strip of .010in plastic card should then be added to the inside of the front track guard each side to represent the stays for these. On many Shermans in action these stays were what were used to retain a plank, log, or baulk of timber, which in turn could be used to support various stowage items or sandbags. Small triangular pieces of plastic card need to be cut, drilled, and added both at the front and rear each side to represent the inner fixings for the sand shields. The front ones on the real thing had slots enabling them to be held in place by three of the bolts on the final drive covers. (Diagram A).

The exhaust deflector provided, (part A32) represents the final design which only became common on M4A3s in Korea, and doesn't appear on any M4A3 that I know of photographed in the ETO (European Theatre of Operations) during World War Two. The four hinges that were part of it when originally incorporated on their M36B1 kit (also incorrectly for WWII) have somehow disappeared in the transition. Whilst not mechanically correct, I made something to look like an early design M4A3 exhaust deflector from scratch. (Diagram B & C). However, for anyone who has done any Sherman 'kit bashing' it is probable that they will be able to find one from a Tamiya M4A3 (75)W kit which represents the earlier design very neatly. The real one was designed to rotate upwards under the overhand for access to the rear door of the engine compartment. The curved portion of mine was recycled from the outside of a 'deceased' felt tip marker pen, being thin aluminium of the correct radius. A similar curved strip could be added to the Tamiya deflector to enhance this.

## Suspension

The excellent upswept return roller bogies with pivoting wheel assemblies are identical to those supplied originally with Italeri's M4A1 (76)W. Welcome additions are the ribbed, pressed disc wheels. These are detailed on both sides, which as far as I am aware is a first for any plastic kit manufacturer. As a bonus they are supplied in addition to the early open spoked web design, giving a choice of which to fit

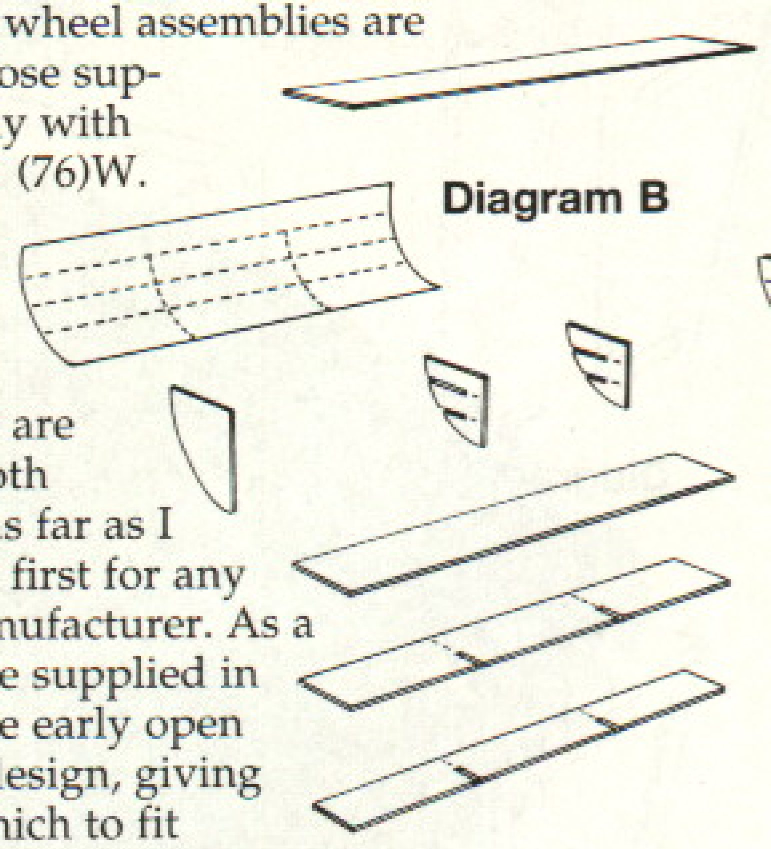


Diagram B

Six small pieces of stretched sprue can be added as bolt heads for the return skids, and retainers for the volute springs on the top of each bogie bracket.

## Turret

Overall the raised bustle turret is very creditable. Its main fault is the lack of a thickened area to the front on the right introduced to obviate the ear-

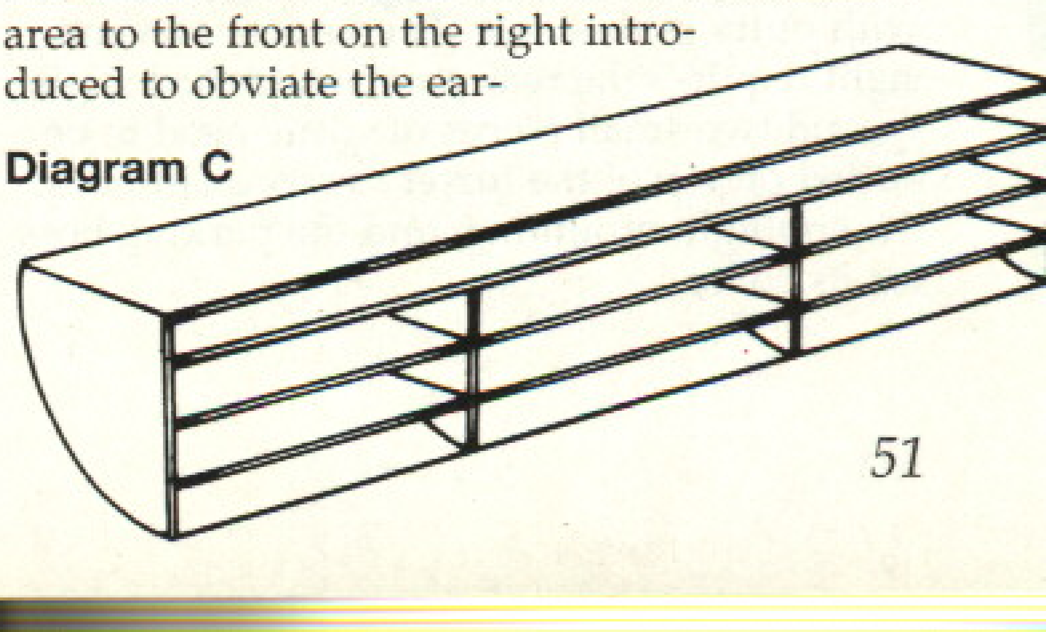


Diagram C

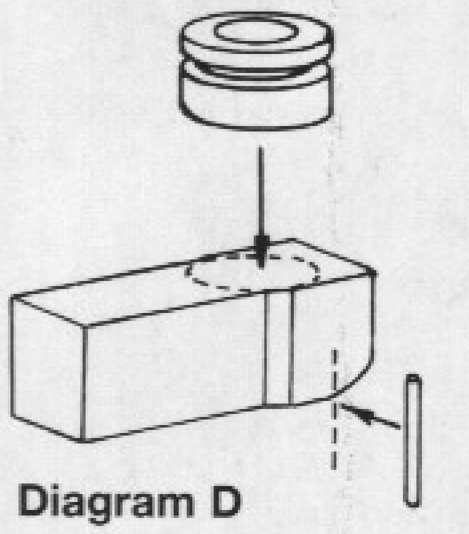


Diagram D

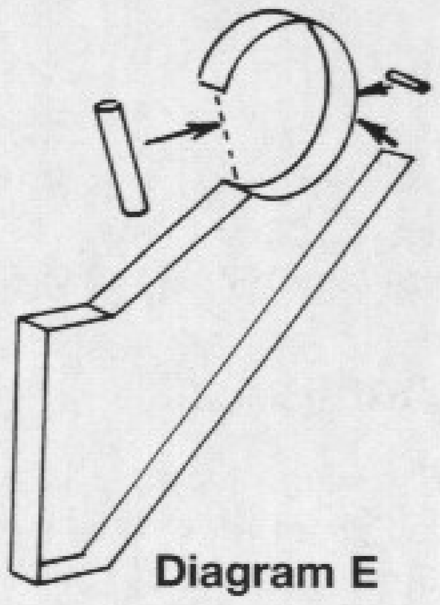


Diagram E

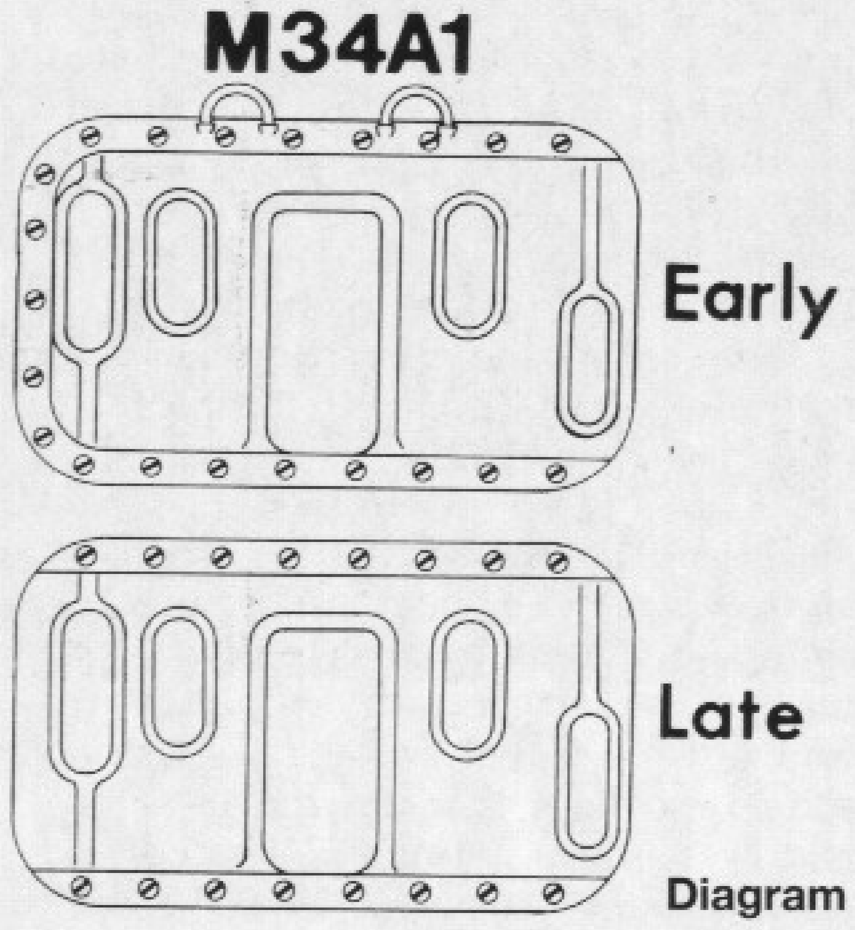


Diagram F

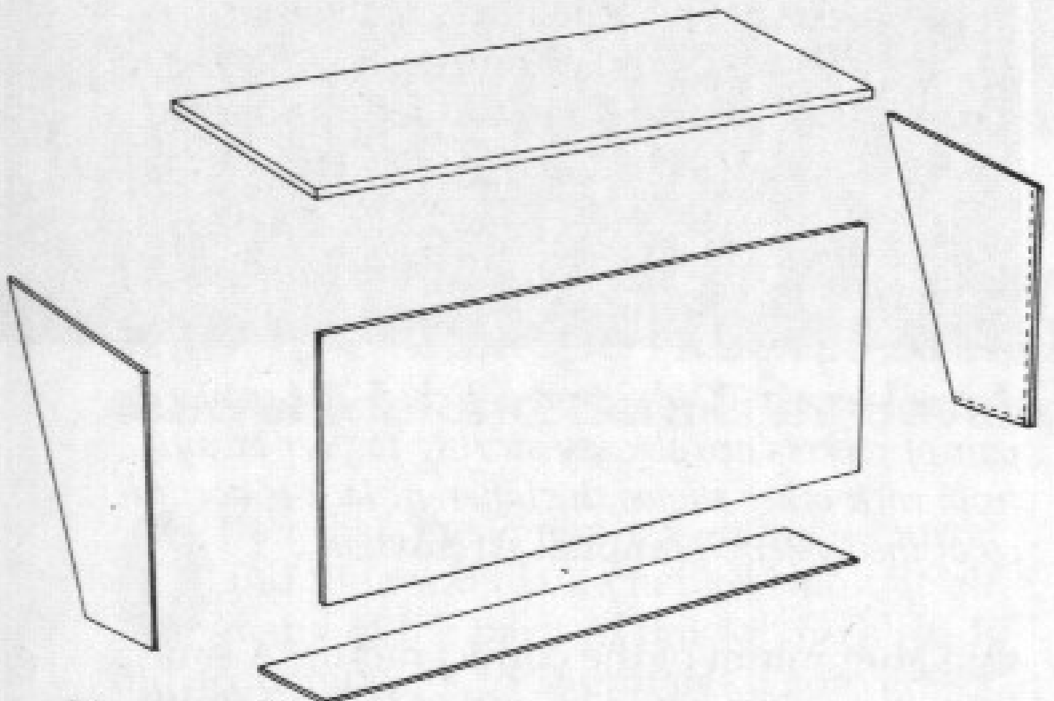


Diagram G

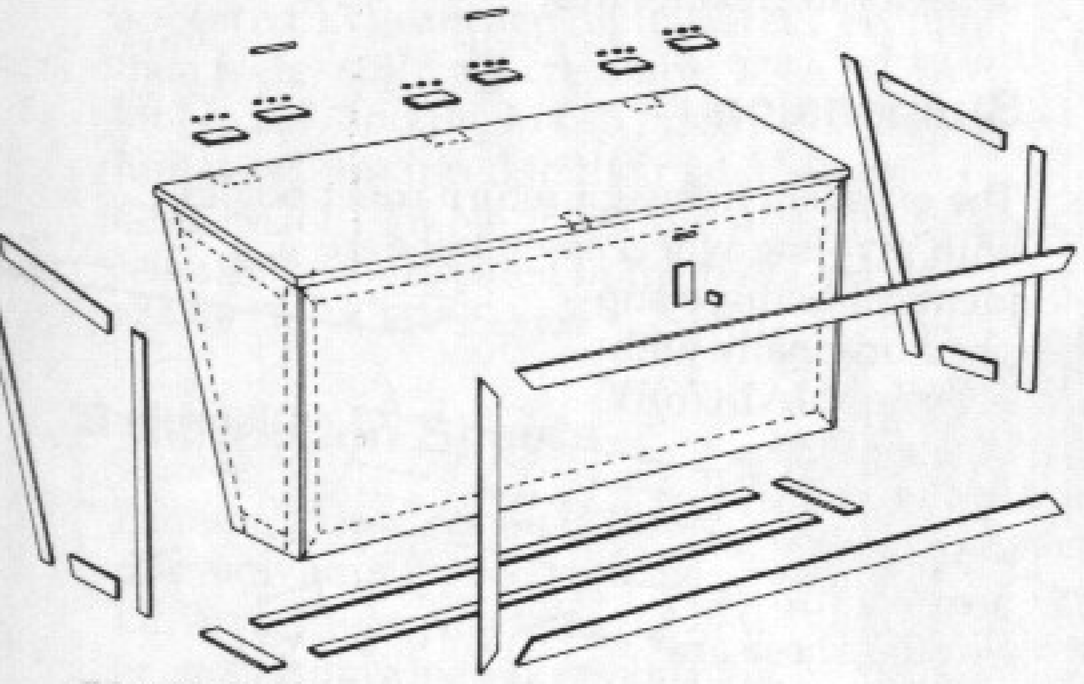


Diagram H

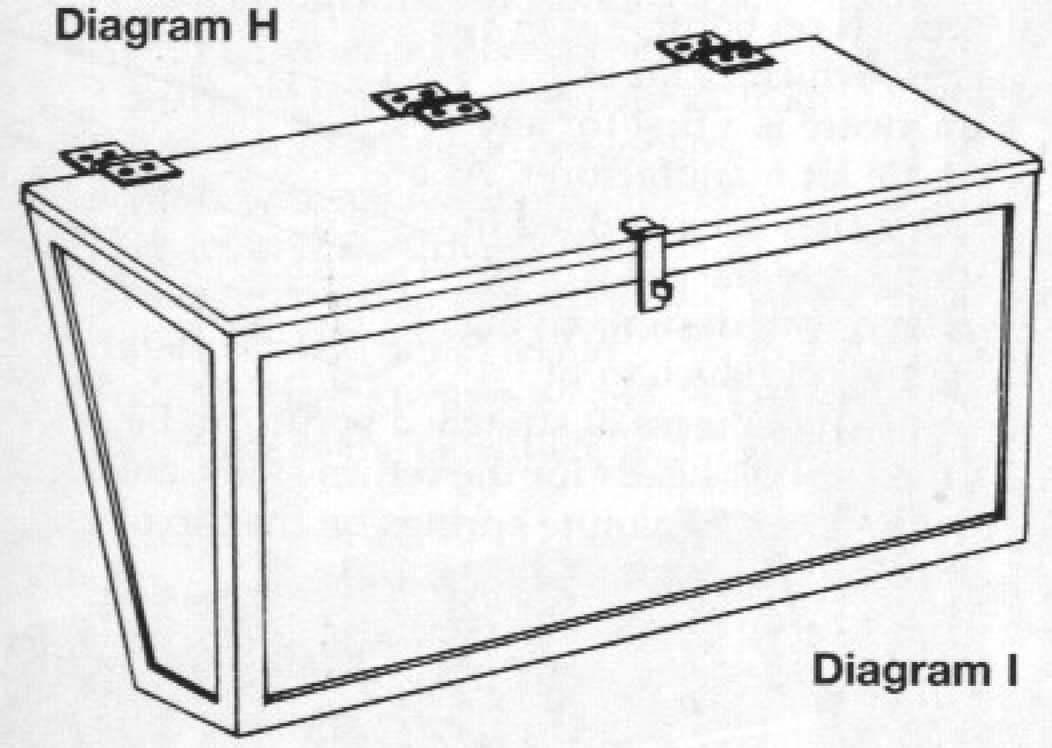


Diagram I

lier appliqué armour, and should be built up with putty in this area. The improved vane sight requires the rear post heightened slightly, and two small pieces of sprue need to be added on top of the turret to represent both the spotlight mounting, and the parking boss for its cover.

The .50 cal machine-gun stowage mounting (C92) for the rear of the turret is ridiculously undersize (about 50%) and needs to be replaced with a scratch built item made from a .10in diameter piece of sprue (saw groove before cutting to length), some .080in plastic card, and a piece of stretched sprue for the clamp handle. (Diagram D).

The same design machine-gun stowage mounting supplied by Italeri on their M4A1 (76)W kit was correct. I also made a bracket to clamp the barrel guard of the .50 cal to accompany it. This was made from a thin strip cut with kitchen scissors from an aluminium can, and then heated with a match in order to anneal it before bending and sticking with instant glue. Small pieces of stretched sprue represent the hinge and the spring hook catch. (Diagram E).

No pivoted travel clip for the .50 cal machine-gun is supplied for the gun ring hatch, and this also needs to be scratch built. Observant readers will notice the boob on the unpainted model with me having made and fitted an early fixed design clip first. The brackets to stow the barrel on top of this early raised bustle turret also had to be made.

To give more of a cast texture to the turret I stippled it with liquid poly before painting. A small drainage hole was drilled at the rear of the circular aerial base, and camouflage net tie downs added from stretched sprue at the top and bottom of the turret rear.

## Gun Mounting

One of the many undocumented changes that occurred on the Sherman was the very necessary thickening of the side of the M34A1 gun shield outboard of the telescope sight slot. (Diagram F). These later shields can be recognised by the absence of a flange with screw heads on the gunner's side, and the lack of lifting lugs. By the time of the high bustle turrets they were standard. The Italeri gun shield (with the addition of two lifting lugs) would be fine for the early version, although for this it should have the rotor shield filed down on the gunner's side to reduce the width so as to line up with the outer edge of the flange.

To update the gun shield for a high bustle turret it should be widened on the gunner's side with the addition of a semi circular piece of .050in plastic card. It is only recently that I have been able to prove that the 17pdr gun utilised the M34A1 gun shield itself (both early and later versions) merely with a new rotor shield. With the recent DML M4A1 kit (No.6408) utilising the later M34A1 gun shield from their Firefly sprue, a swap would give the best probability in both instances.

The method of mounting the gun on the kit has been designed well and the gun moves nicely. To obtain the correct .10° degree depression it is necessary to file away part of the bottom of the gun shield which fouls the turret ring protector.

## Weighting

Before fitting the turret, providing of course the interior isn't going to be detailed, I always stick some lead inside the hull to give weight to the model. A model representing something that was extremely heavy doesn't feel correct if it can be lifted too easily!. When using the Italeri Sherman suspension this also helps stop the articulated front and rear road wheels rising up under the tension of the one piece track.

## T34 Multiple Rocket Launcher

The rocket tube assembly was designed so as to the be same width as the tank. On the kit the whole assembly is too wide. The trunnion support arms being spaced too far out from the sides of the turret end up with their outer sides at the width of the tank. This, as with the next three errors, is the same as in the drawings referred to at the beginning of the article. Other than building a completely new tube assembly nothing can reasonably be done about this.

To hold the whole assembly upright, what were termed latch plates should project from the upper sides of the turret. These are non-existent in the kit, and will have to be scratch built.

No Sperry receiver is supplied for the elevation strut, or connections and fittings at the yoke, and all require to be scratch built from plastic card and stretched sprue.

There should be two electric cables for firing the rockets, three hydraulic lines for jettisoning the equipment, and a chain for jerking it apart, between the tube assembly and the connection block, replacing the loader's periscope. These can be represented with two different thicknesses of fuse wire.

If the gun barrel clamp (D129) is fitted on the barrel to use as originally designed, this would require being fitted 25mm from the muzzle to enable the correct elevation and depression of the rocket launcher of .7° to +30°. If fitted as far back as it will go on the barrel one would end up with no depression and too much elevation. The real thing was designed so that with the gun barrel depressed -5° the rocket tubes were level.

The three Sperry receivers were hydraulically operated levers used to unclamp the elevation strut from the gun clamp, and the trunnion support arms from the turret on jettisoning. Whilst the four lifting lugs projecting upwards from the sides of the tube assembly were supposed to have been removed after installation, the majority of photos show they were left in situ.

## Examples

In view of the Italeri kit having the T34 mounted on a large hatch hull Sherman when most Calliopes appear to have been mounted on earlier models, it is extremely fortunate that multiple views were taken of two examples of similar combinations to enable accurate replicas of these to be produced.

## 'Cold Storage'

The first of these, and for which decals are supplied, was named 'Cold Storage' which was in the 714th Tank Battalion of the 12th Armoured Division. Different photos of this which have appeared in various publications over the years were all taken on 9th March 1945 at Fletrange in France, where it was being used for a demonstration.

Having decided to produce a replica of this vehicle the first thing to note is that the road wheels were all of the open web spoked design, and these are the ones that need to be assembled. I hadn't located the left front close up of this tank when I started, so all my wheels, both on the model and the drawing, had to be laboriously changed later on. This accounts for the photographs taken prior to painting showing the pressed rib design.

A large rear stowage box was fabricated from plastic card. Real ones were made as a framework of angle iron, with steel rods on the outside, and lined with either sheet steel or plywood. These rear stowage boxes were fairly common on both the 12th and 14th Armoured Division tanks of the period, and weren't restricted to those fitted with Calliope. Diagrams G, H, and I show the method of construction.

With the elevation strut attached to the gun barrel as designed, the gun couldn't be fired until the rocket assembly had been jettisoned. To overcome this restriction many tanks had the gun barrel clamp welded on top of the gun shield recoil cheeks. These included 'Cold Storage'. For this purpose on the model the elevation strut (D122) needs to be shortened by about 10mm. The problem with this 'field fix' was that it restricted the maximum elevation of the Calliope thereby making range dispersion even worse. As far as I can ascertain, if fitted for the tubes to be level with the gun fully depressed, the maximum elevation would only be 20°.

I replicated a removable 75mm canvas muzzle cover by forming a small tube from the lead foil of a wine bottle cap, sticking it to another piece, both with instant glue, and trimming around. Although feeling guilty at not even trying to see if it was possible to solder such thin lead foil, it worked well. Two short pieces of cotton to represent the ends of the draw-string finished it off.

Although the T54E1 steel chevron tracks supplied with the kit are the correct design, 'Cold Storage', as with so many other Shermans in the ETO at the time, had extended end connectors fitted to the outside of the track. This, to lower the ground pressure in the seasonable mud. The additional 4,240lbs of a loaded Calliope made them even more imperative. To be accurate I, therefore, swapped tracks with those supplied with a Tamiya M4A3 (75)W kit.

Whilst the instructions define the decals for this tank to be mounted one above the other on the sides, they should be mounted with the tank's name to the rear of the unit designator. Due to a different shade of olive drab, this tank obviously had the white stars on the hull sides towards the front overpainted by hand to stop their use as aiming points. The effort to produce the flamboyant markings undoubtedly had some influence, and these were apparently only temporarily toned down by throwing old engine oil over them. This suited me fine as the waterslide transfers when applied were obvious, and a judicious application of black water-colour, suitably thinned, hid the fact.

For the front of 'Cold Storage' I made a plank to fit between the mudguard stays from a strip of plastic card scored to give it a grain. A half-opened box, a large can, two track link fitting tools, along with their ratchet handles, were fabricated for mounting on this. A further two web-spoked road wheels had to be found along with two steel helmets. The latter to park over the front lifting lugs. Two M3 submachine-guns ('Grease Guns')also need to be made or obtained to complete the front stowage. At the rear two packs to hang onto the rods on the rear stowage box are also required.

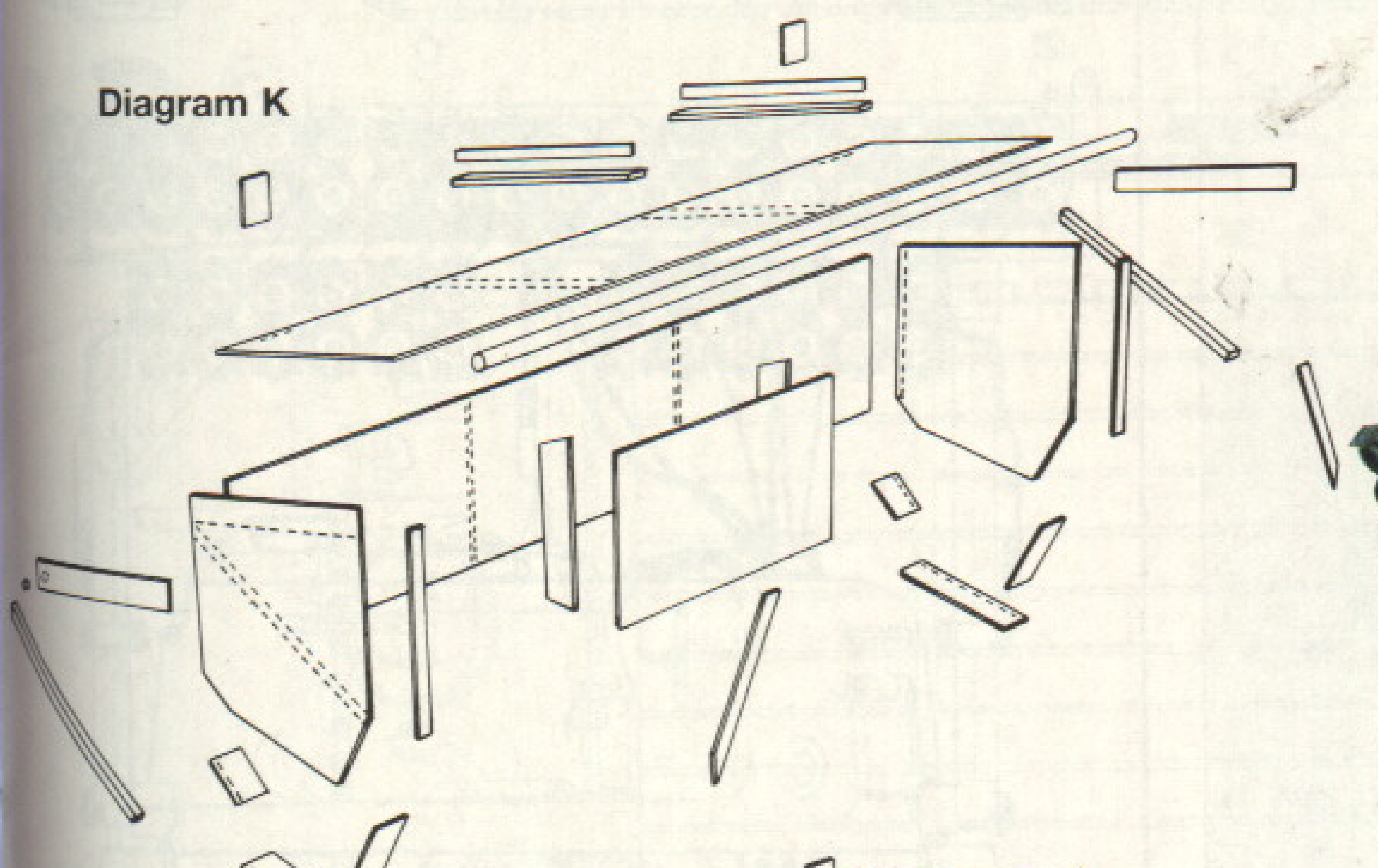
## 'Annabelle'

The second well-photographed example of a Calliope fitted to an M4A3 (75)W had the name 'ANNABELLE' and a pin-up figure painted on the front sides of the turret. This was in the 48th Tank Battalion of the 14th Armoured Division, and was photographed at Obermodern on 3rd March, 1945. This also had a similar large stowage box at the rear as on 'Cold Storage', but wasn't fitted with extended end connectors, and the Italeri tracks could accurately be used.

On this example the turret should be fitted with a vision cupola. Both a vision cupola and a gun ring hatch are supplied with the Tamiya M4A3 (75)W kit and would be a good source. As a short pedestal mount and a pair of rear turret brackets for the .50 cal machine-gun barrel stowage would also be required, a direct turret swap would undoubtedly be easiest. I would suggest a reason for the rarity of tanks with vision cupolas being fitted with the T34 is the impossibility of being able to open the lid fully. This would necessitate entry or exit for all the crew through the other hatches.

This tank was similarly fitted with web-spoked wheels other than the second one on the right hand side. This wasn't, however,

Diagram K



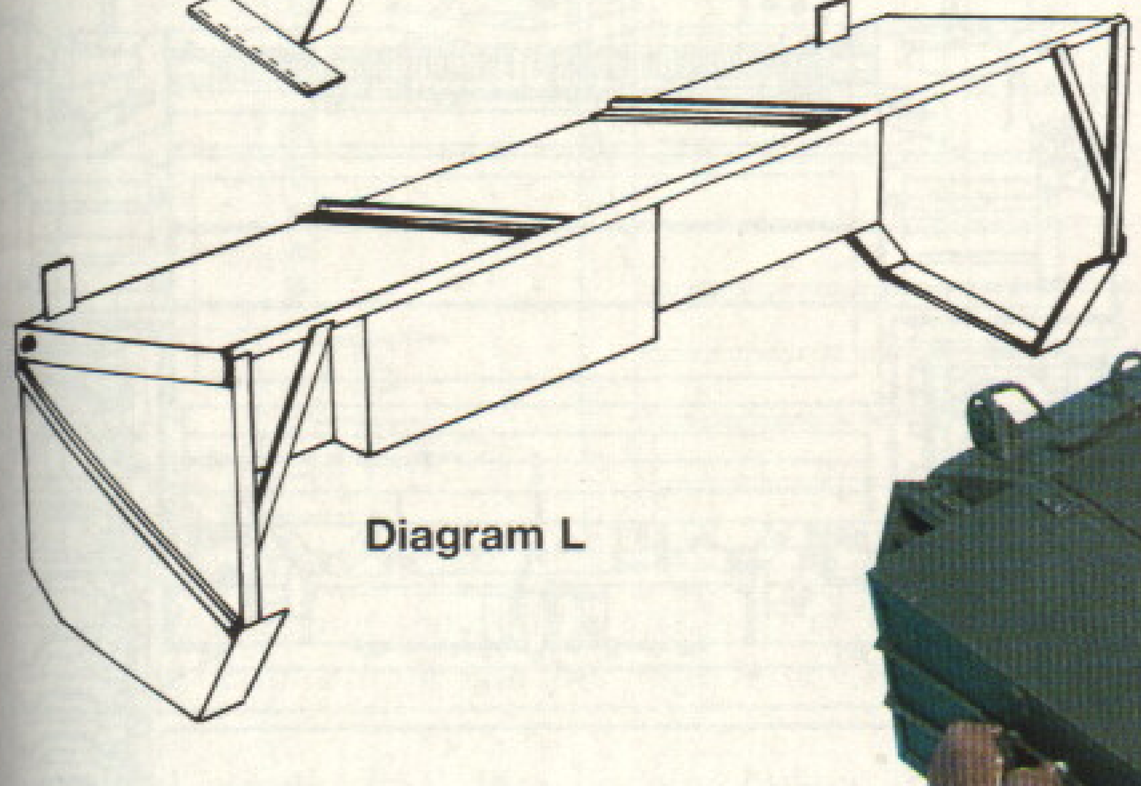
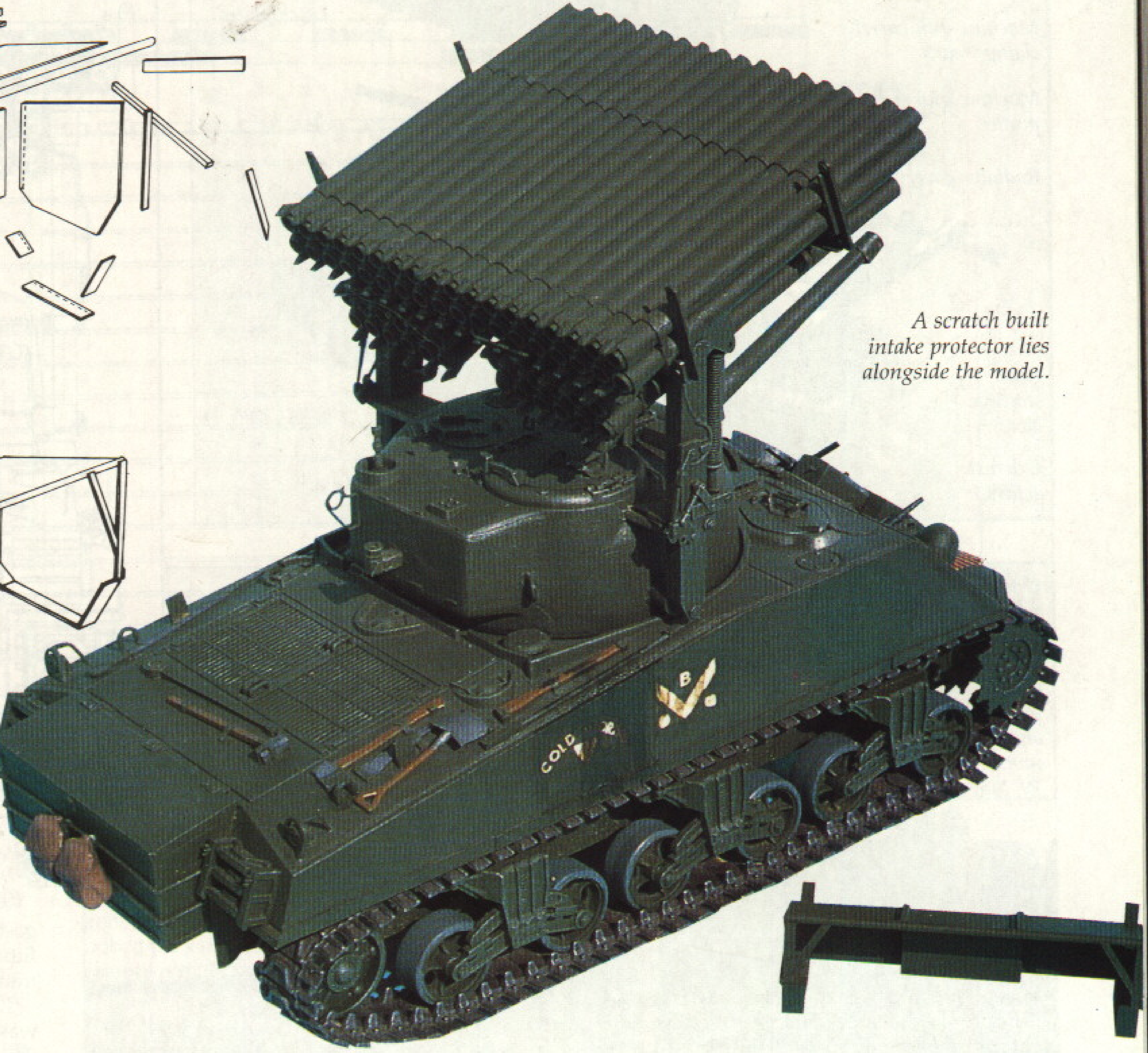


Diagram L



*A scratch built intake protector lies alongside the model.*

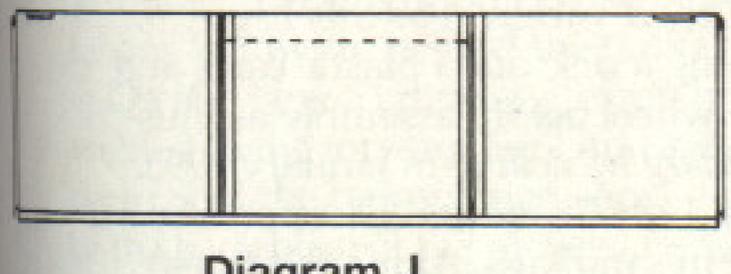
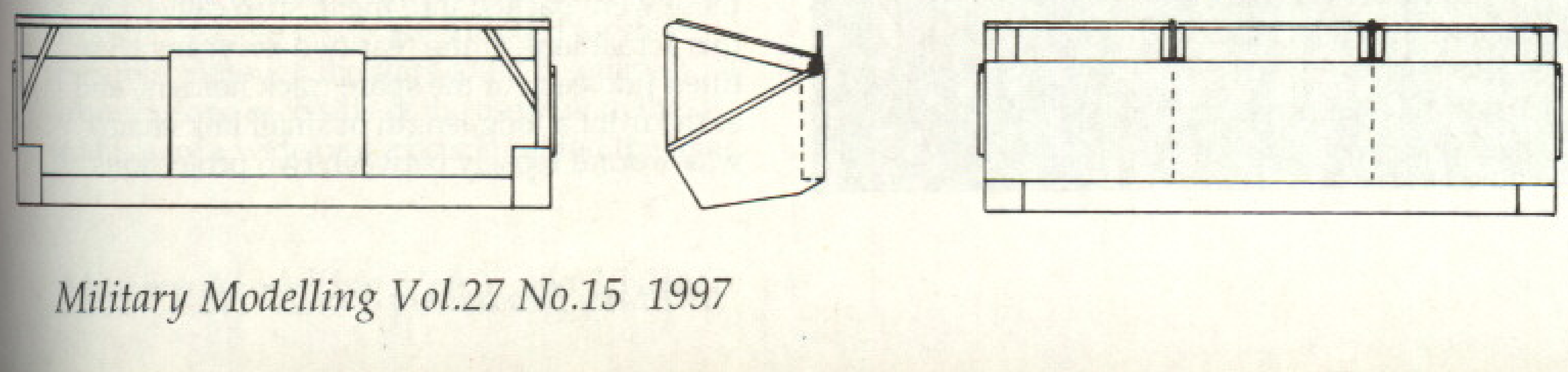
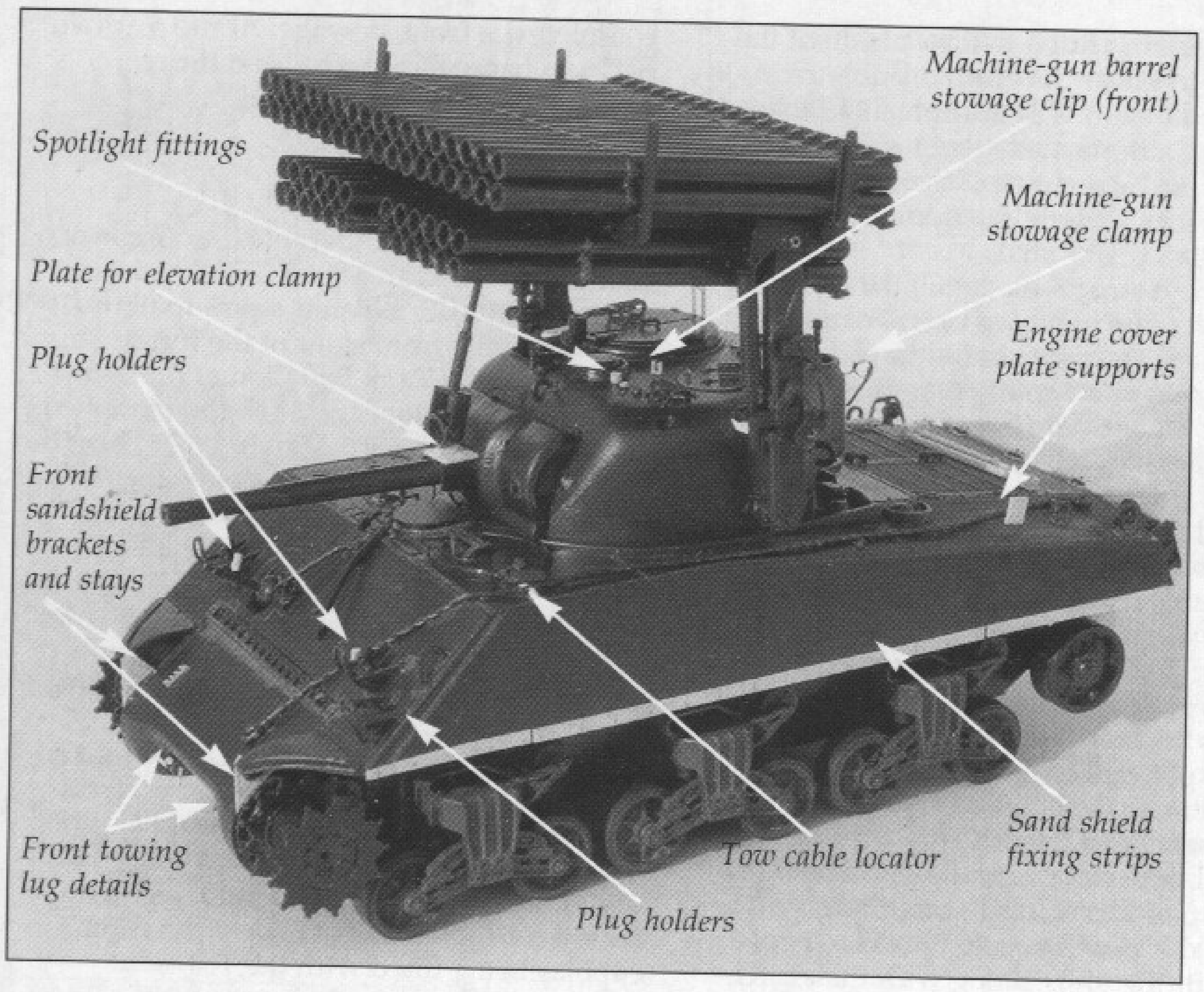
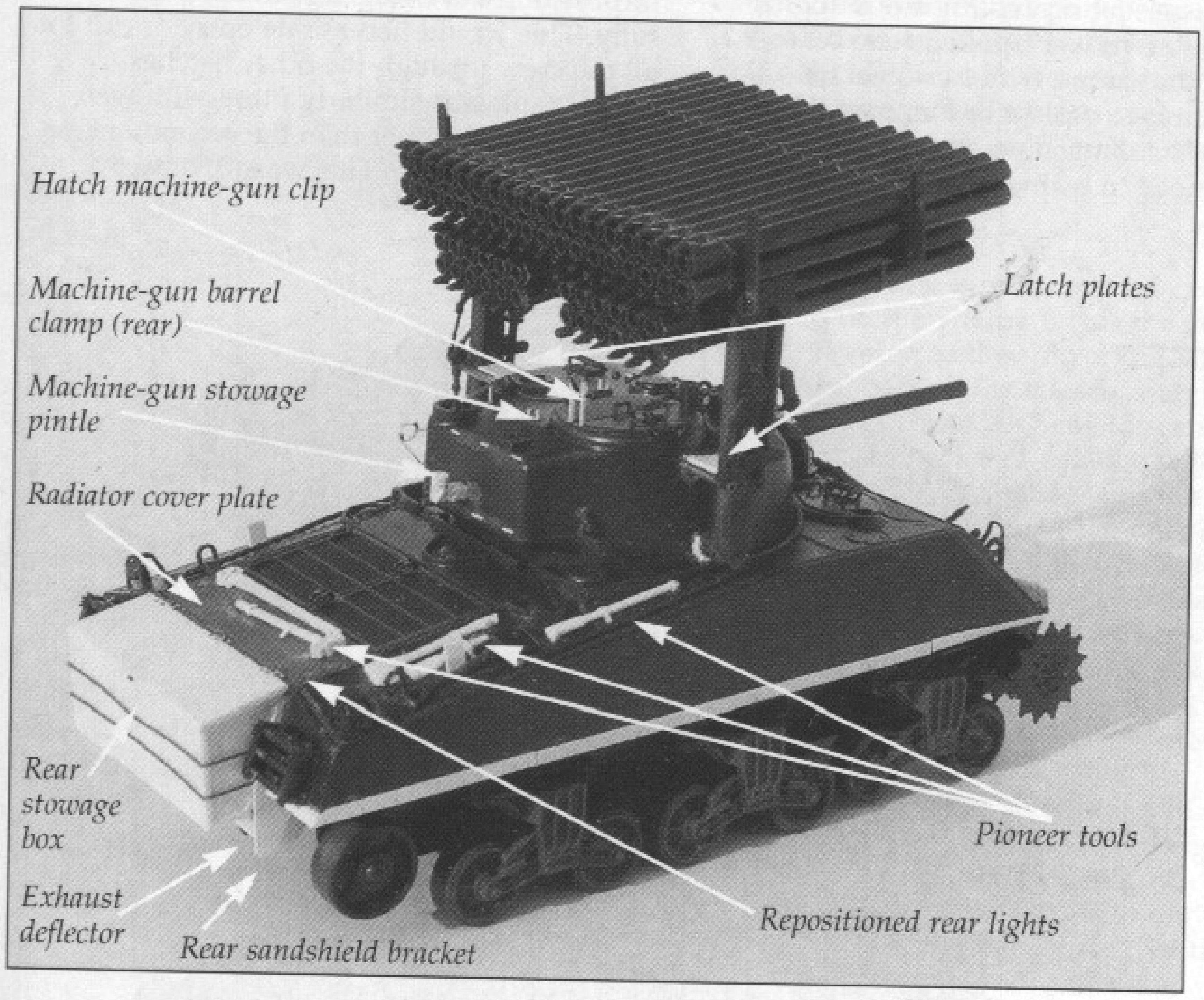
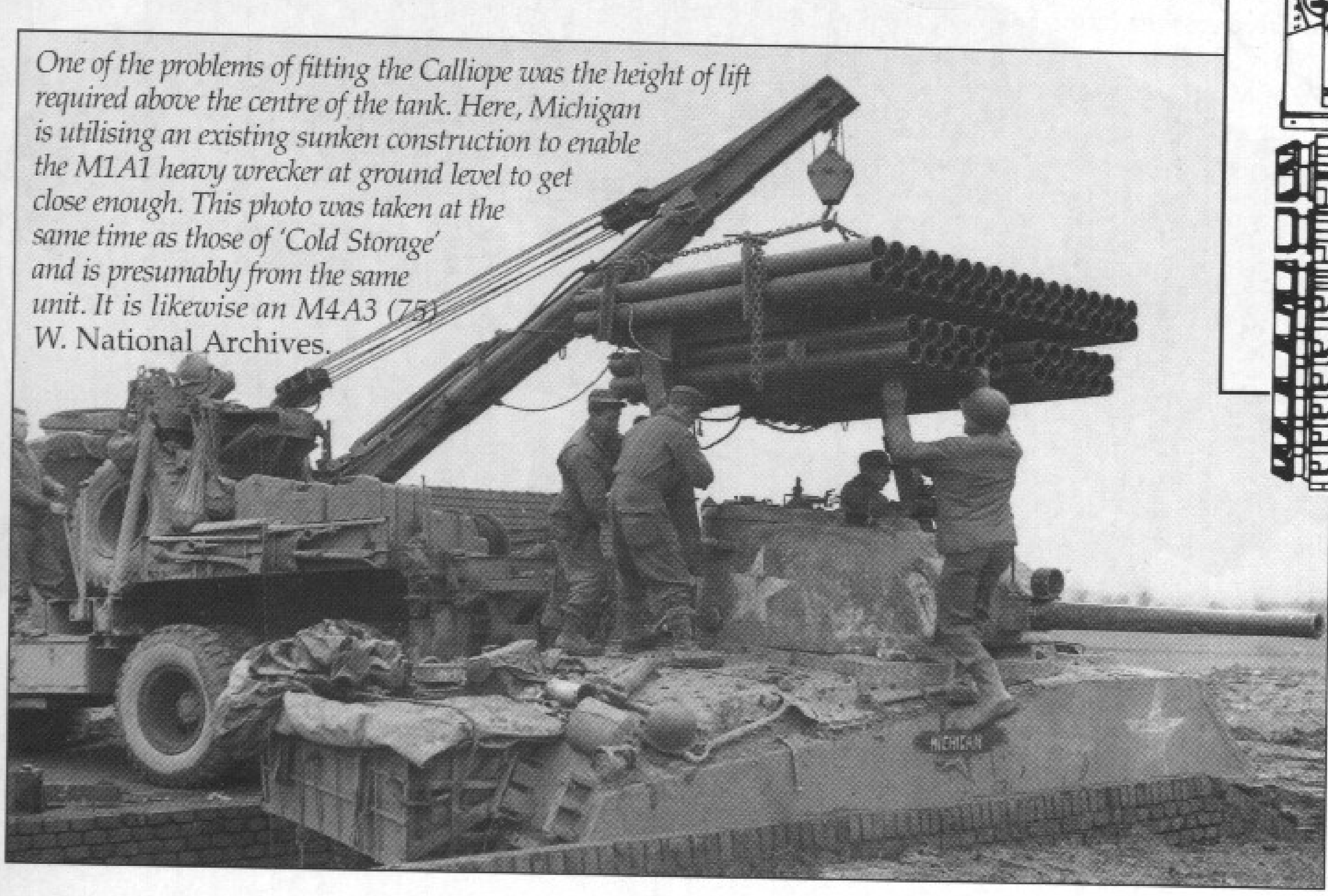


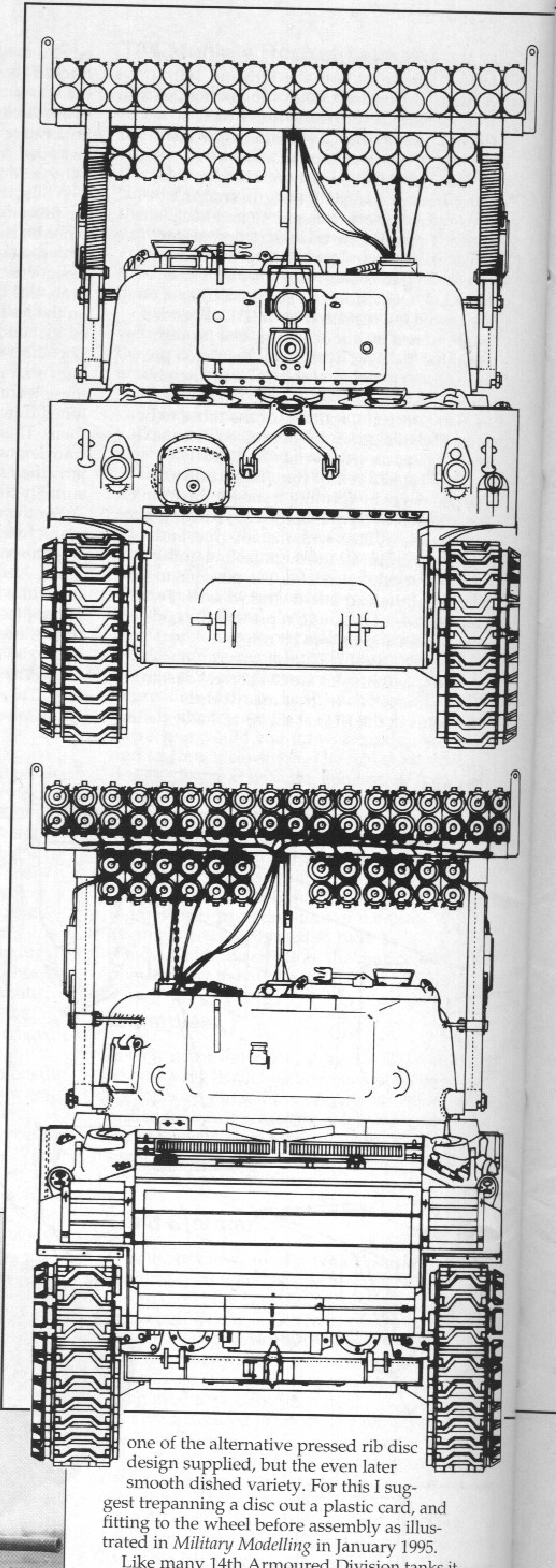
Diagram J




Machine-gun barrel stowage clip (front)
Spotlight fittings
Machine-gun stowage clamp
Plate for elevation clamp
Plug holders
Engine cover plate supports
Front sandshield brackets and stays
Front towing lug details
Tow cable locator
Sand shield fixing strips
Plug holders

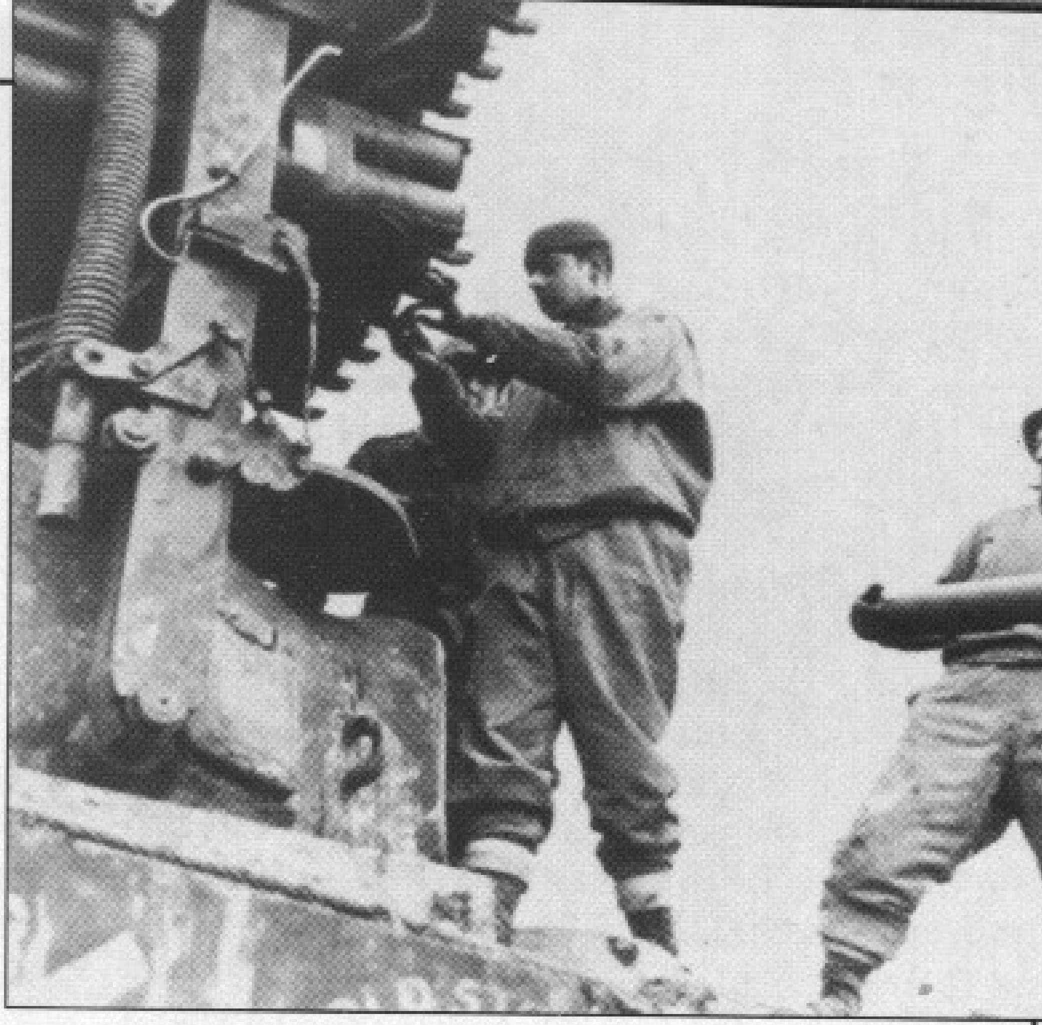

Hatch machine-gun clip
Machine-gun barrel clamp (rear)
Latch plates
Machine-gun stowage pintle
Radiator cover plate
Rear stowage box
Pioneer tools
Exhaust deflector
Repositioned rear lights
Rear sandshield bracket


*One of the problems of fitting the Calliope was the height of lift required above the centre of the tank. Here, Michigan is utilising an existing sunken construction to enable the M1A1 heavy wrecker at ground level to get close enough. This photo was taken at the same time as those of 'Cold Storage' and is presumably from the same unit. It is likewise an M4A3 (75) W.* National Archives.

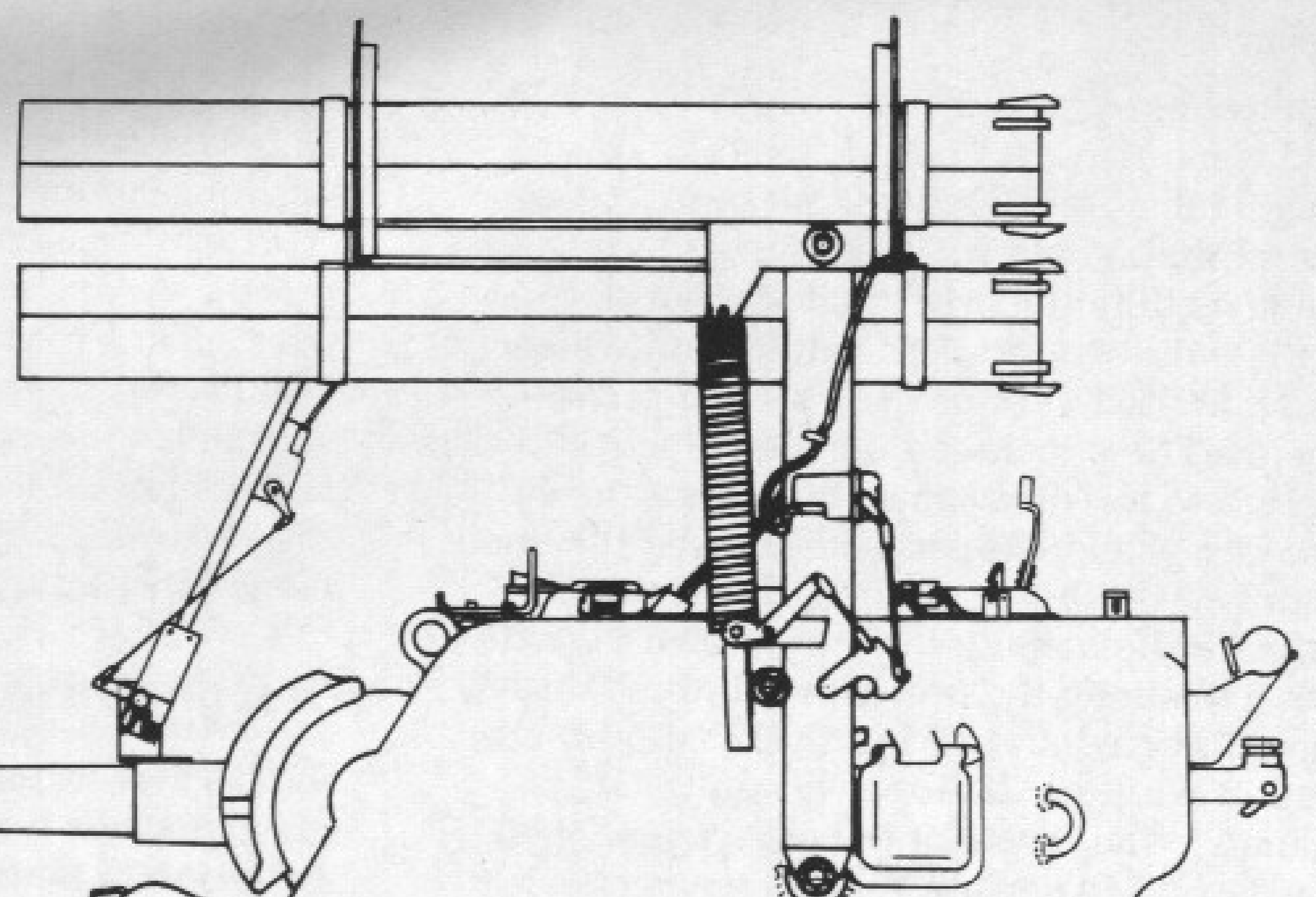


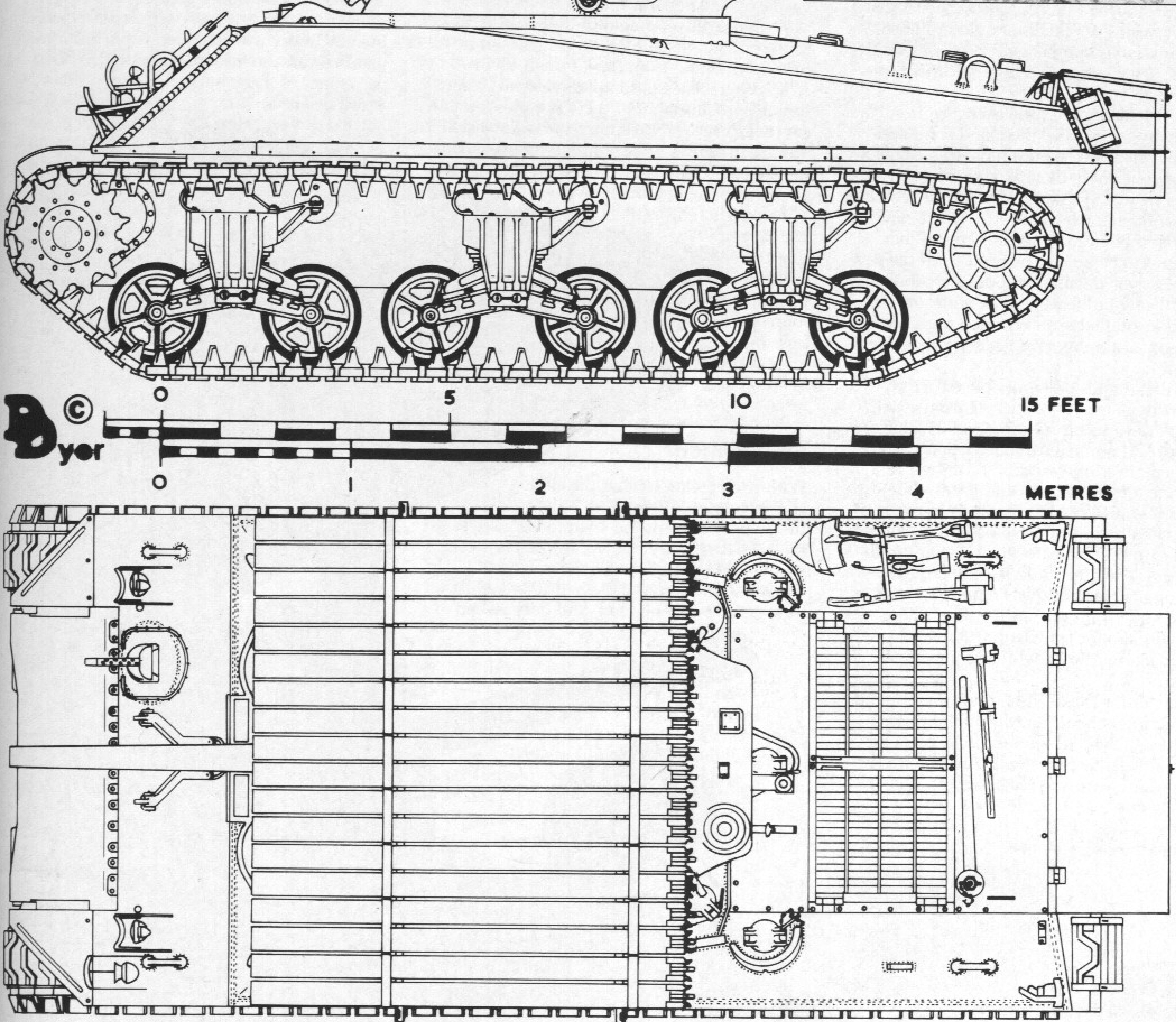
one of the alternative pressed rib disc design supplied, but the even later smooth dished variety. For this I suggest trepanning a disc out a plastic card, and fitting to the wheel before assembly as illustrated in *Military Modelling* in January 1995.

Like many 14th Armoured Division tanks it was covered in sandbags. Along the sides these were packed into metal strip cages. On this actual tank at the rear two jerrycans were fitted into each of the spare track holders, and at the front a long length of small link chain was wound loosely between two projections



*RIGHT: 'Cold Storage' being loaded. Rockets were inserted into the rear of the tubes, being retained by a spring latch, and sprung electrical contact fingers positioned onto the contact rings at the rear of the rocket. The size of each round which weighed approximately 38.5lbs is obvious from the soldier holding one. The complicated hydraulic operating linkage necessary to jettison the assembly is clearly visible.* Patton Museum.





*The scale drawings show all the attributes of 'Cold Storage' other than the tow rope and front and rear stowage. For simplicity both the gun and projector are shown horizontal.*

welded onto the final drive housing bulges. It is probable that this was to detonate German 'S' mines that might otherwise be triggered by troops following behind the tank.

On this tank a crude angle iron bracket was welded to the forward left hand side of the turret to hold the repositioned aerial out of the way of the back blast of the rockets. As with 'Cold Storage' this tank also had the gun barrel clamp repositioned. No decals are supplied for this example, although the stars could be utilised, requiring one each side of the turret with the addition of a wide broken circle behind the 'pin-up' and name, and 14 48T A18 painted each side of the gun barrel.

It really is amazing that when Italeri have gone to the trouble of producing some excellent ribbed pressed disc wheels that two accurate examples that can be built with the kit still only need the old open webbed design.

## Development

Although rockets had been used in warfare from ancient times, interest in them faded with the advent of rifled breech loading artillery in the mid 1800s.

With a resurgence of interest in rockets abroad, the U.S. Army assigned a single officer in 1933 to study their possible use. Handicapped by limited funds for research, and indifference by fellow officers no headway was made until 1940. In December of that year a requirement for a rocket primarily for firing from aircraft for ground attack was defined. With Britain having developed ground launched anti-aircraft rockets, the fruits of this research were promptly put at the disposal of the

United States, and rocket research in America started in earnest. The earliest result being the Bazooka. Another outcome was the 4.5in M8 fin stabilised rocket for use both by the Army Air Force and the Artillery; the Navy having decided on 5in calibre.

The erratic behaviour of simple rockets was an inherent problem; guidance systems at the time being well in the future. Through carrying their own propellant, they lost weight as it burnt, and the centre of gravity changed. If the propellant didn't burn evenly the direction of thrust altered, and fins fitted to give directional stability in their turn created further problems. By the later part of 1943, it was considered that because of the lack of accuracy, artillery rockets should only be used in massive numbers, all fired as quickly as possible for saturation bombardment of a specific area.

When rockets were fired their position was given away by the backflash and trail, and counter-battery fire would have to be expected. A large number of separate sources would spread the risk. A very simple, eight-tube barrage launcher, the T27, which was designed to be fired from the ground, but was found to be able to be used from the bed of a truck, was developed, put into production, and saw limited use. The work on a reloadable single barrel wheeled mounting, envisaged as a lightweight 4.5in gun, being terminated.

The advantages of being able to fire an even greater number of rockets from a tank had a lot of things to recommend it, which were not lost on the Ordnance Department. Being armoured it would be protected to a great extent from counter-battery fire. Being tracked it would not be restricted to roads. It already had means of traverse with its turret, and an azimuth indicator enabling accurate deflection. The gun could supply a means of elevation and the tank was equipped with a gunner's quadrant for indirect fire. There was also a wireless for communication, and a battery and charger to provide the means of ignition.

An order for the design, development and manufacture of six 4.5in Multiple Artillery Rocket Launchers designated T34, each comprising at least 50 tubes was placed with the Heintz Manufacturing Company of Pennsylvania on 4th September, 1943. Demonstrations of early pilots in front of high ranking officers of the various services went well and early small orders were soon followed by large ones. Ultimately there were three versions of the tank-mounted launcher for the M8 rocket. The T34 of which 254 were built utilised fibre tubes. The T34E1 of which 605 were manufactured differed by having metal tubes, originally magnesium, but later aluminium. Only six pilots were made of the final version the T34E2 that was produced with a view to standardisation; and which incorporated various necessary improvements. These included the elevating rod connected to forward projecting extensions of the gun shield cheeks. This allowed the maximum elevation for minimal dispersion, whilst still enabling the gun to be used without jettisoning the projector. Minimal dispersion occurred at +45° but the maximum elevation with the Calliope was only +31°. Range to the centre of impact was still 4,000 yards, but dispersion was far greater.

With the development of the more accurate, spin-stabilised M16 rocket using the principle copied from the German 15cm *Nebelwerfer*, cancellation of development and limited procurement of the T34 series launchers took place in November 1944. At least 475 T34s and T34E1s were shipped overseas, but none of the T34E2s. Fifty T34s were shipped to the Pacific Theatre where it was hoped that they would be useful for 'bunker busting', but were found to be too inaccurate.

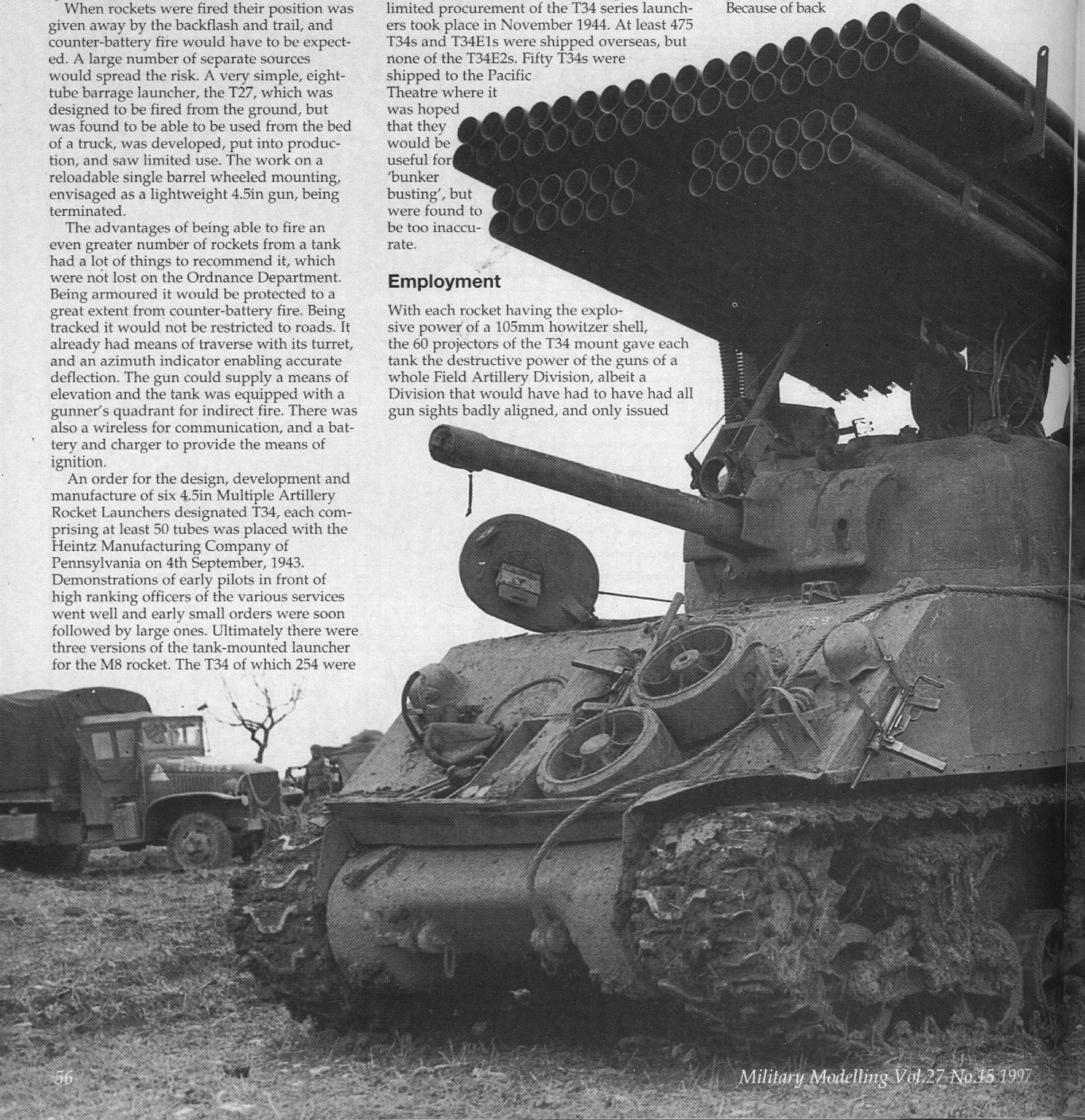
## Employment

With each rocket having the explosive power of a 105mm howitzer shell, the 60 projectors of the T34 mount gave each tank the destructive power of the guns of a whole Field Artillery Division, albeit a Division that would have had to have had all gun sights badly aligned, and only issued with inconsistent short range charges! It wasn't, however, perceived as a method of giving each tank commander his own personal Divisional Artillery. All use was anticipated to be during mass barrages in conjunction with many other launchers, as part of set-piece assaults. Reference is made to 50 launchers being able to deliver 3000 rounds or 52 tons (US) of high explosive in 30 seconds; being the sort of barrage contemplated. No bombardment of this scale ever happened.

## Design drawbacks

The Calliope had many drawbacks. It was only safe to fire over the heads of friendly troops above certain elevations because range dispersion was very great at low angles. Even then friendly troops were required not to be further than 500 yards in front of the tanks due to the percentage of short rounds.

Because of back



blast no troops were allowed to be within 75 feet to the rear or 50 feet to the sides when the rockets were fired.

Approximately 12 hours of skilled work were required to prepare each tank and mount the launcher, and 37 hours to train each tank crew member properly. Although operational instructions for fitting and using the launchers were made available at the end of October 1944, units trying to use them had many problems to overcome, that weren't known about or mentioned.

The fibre tubes were affected both by the weather and the tightness of clamping, and it was found necessary to plug gauge each tube separately by sliding a round down each one, and if necessary replace it before mounting the assembly. Fitting fuses and checking rounds to reduce misfires to the minimum also took a long time because of the quantities involved.

The rockets could not all be discharged at the same time, there being a built-in, half-second delay between each on automatic. Single rockets could be fired if necessary, allowing a second go at misfires. The tubes could be used a number of times, reloading taking up to 45 minutes on test. Because of the power drain on the batteries it was very necessary to keep the auxiliary generator in the tank running throughout firing. The traverse lock wasn't sufficient to hold the turret in position whilst the rockets were being fired, and it was necessary to continually adjust the turret in azimuth during the half-minute this took.

## Fuses

As well as the standard point detonating fuse, normally set on superquick, the highly secret POZIT proximity fuse could be fitted. These could be set to explode at a predetermined height above the ground, and were lethal to troops not under cover. It isn't known whether any were actually used with Calliopes.

## Intake Protection Box and Lid

This was the long, open-sided box seen positioned transversely across the rear deck of many tanks fitted with Calliope. Why it was of such a relatively complicated hinged construction isn't known. No mention whatsoever is made of it in the installation or firing procedure instructions despite these being insistent that all hatches were to be closed before firing to stop the ingress of flames. Although not required for 'Cold Storage' I made one, and scale drawings and assembly diagrams are shown (J, K, L).

## Jettisoning

Jettisoning was accomplished by turning the turret to point the gun to the side, elevating it to maximum, and then operating the three hydraulic operating levers inside the turret together. Whilst mention is made of sledgehammers having to be used to clear the projectors in one unit, another says the jettisoning equipment worked very satisfactorily.

One recommendation was that wreckers should be made available to lower the projectors to the ground in order to avoid damage, and facilitate their further use. The theory promoted was that the tanks could fire their rockets, jettison the projectors, and immediately be available for use in their primary role. In the first place, tanks deployed as artillery would hardly ever be in the ideal position they should be for a tank assault. In the second, after jettisoning the projectors, it took about two hours, even under test conditions, to prepare each tank for combat. This had to include bore-sighting the gun if they wanted to hit anything, due to the shock of firing the rockets causing misalignment of the sights.

When offered to the various armies in the ETO the First Army didn't want it because of the disadvantages of mounting the launcher on a tank. One Third Army tank battalion that did employ the T34 briefly was appreciative of the morale effect of the great concentration of firepower, but had many reservations. The post war final historical report merely states that 'A 60-round 4.5in tank-mounted, barrage type rocket launcher was made available to units, but was not extensively employed in combat, adequate artillery preparation being available' - which says it all.

## *Sonder*-Calliope

Photos have been published at various times of a captured German *SdKfz 251* armoured half-track fitted with a Calliope, and described as a crew training rig. It was, in fact, one of five expedient mounts converted for use by the 743rd Tank Battalion.

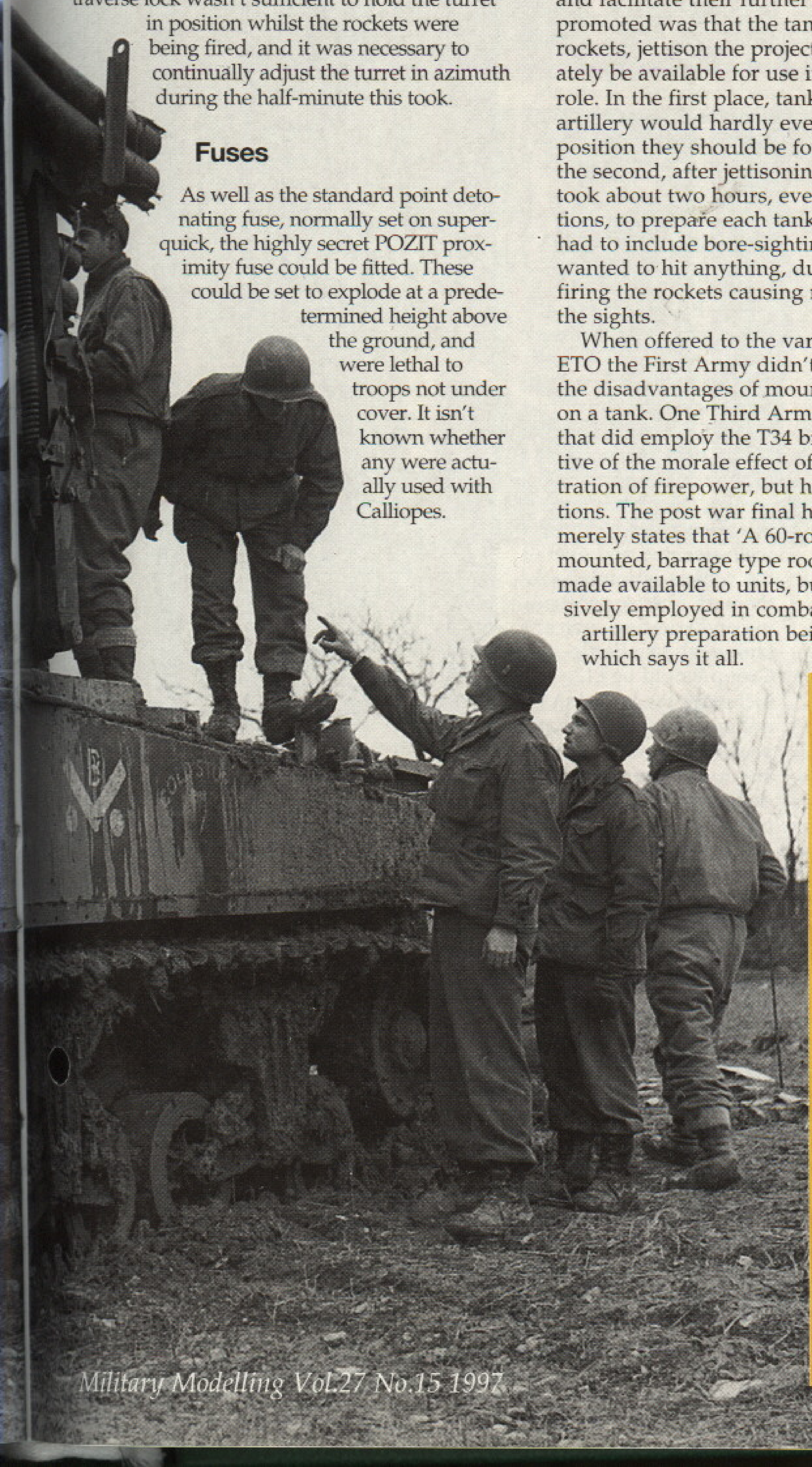
## Spin stabilisation

It was only after the Normandy invasion that the Army Ground Forces came in contact with the German 15cm *Nebelwerfer*, and were able to appreciate the advantages of spin stabilisation for other than hollow charge projectiles. This caused the U.S. Ordnance Department to switch resources to developing a 4.5in spin-stabilised rocket.

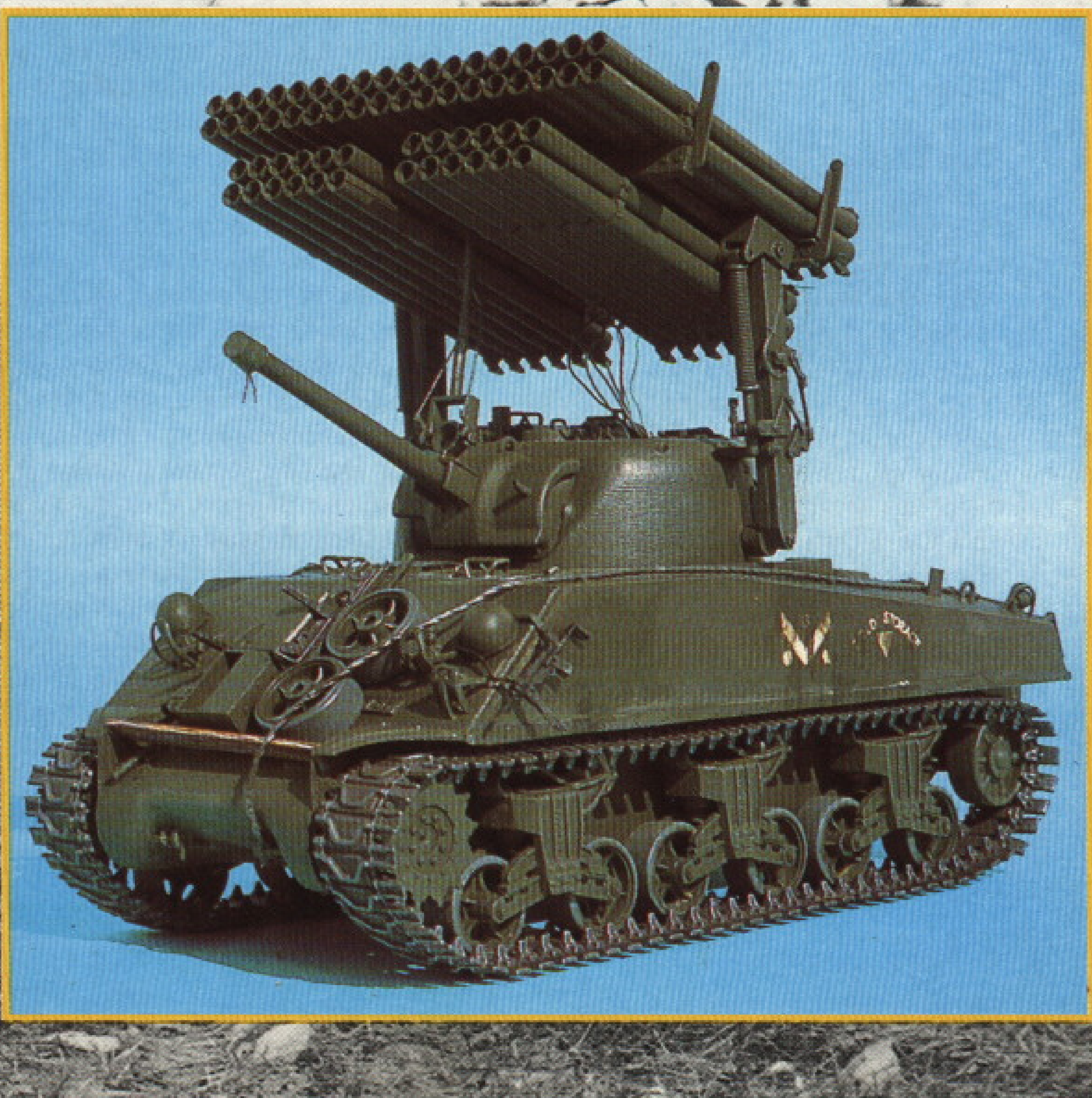
What is interesting is how both Britain and America had overlooked spin stabilisation. A Briton named William Hale had produced an improved military rocket in 1844 which used angled vents for the exhaust gases. These caused the rocket to spin in the same way as a bullet is spun by rifling to give a stable flight and obviated fins. They were used both by America in their War with Mexico in 1846-8, and by the British Army in several late Victorian Colonial Campaigns.

## Surviving Examples

Although no T34 projector appears to have survived, one of its developments the T72 has been retained at the A.P.G. in Maryland USA. This utilised the 4.5in spin stabilised M16 rocket which was more accurate and only required short tubes. Because these could be balanced at the top of the support arms, no long counterbalance springs were required, and the jettison mechanism was enabled to be simplified. None of this design was ever used in action. ■



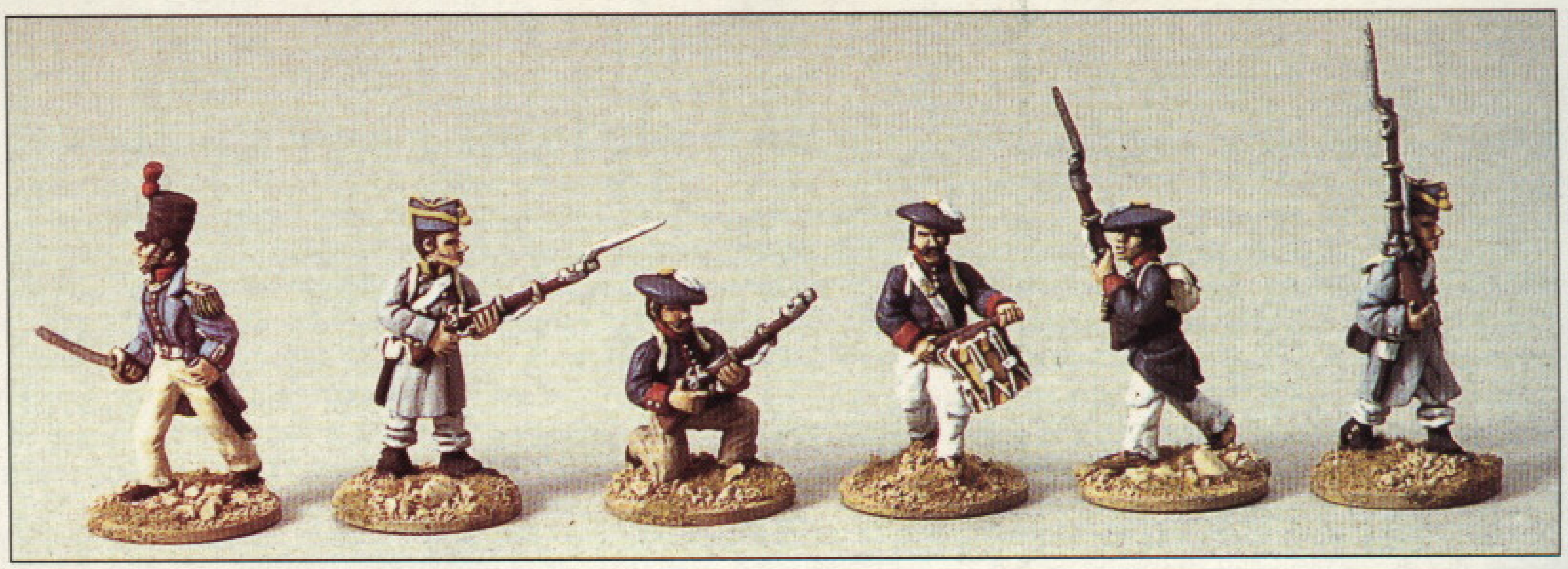
*MAIN IMAGE: This close-up of 'Cold Storage' shows details of the front stowage the author has tried to duplicate on his model. National Archives.*



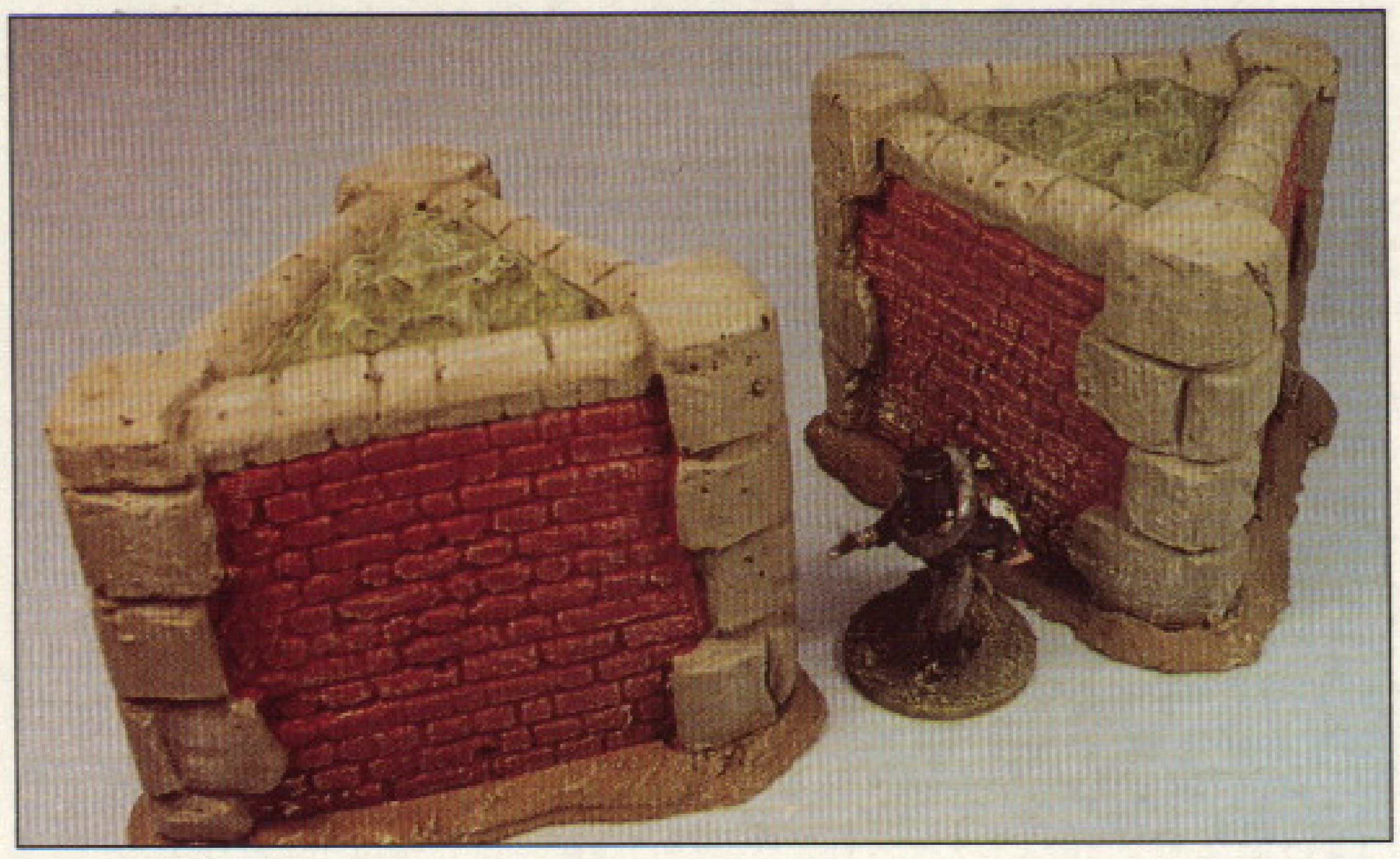
*BELOW: Front view of the author's model of 'Cold Storage'.*

# OBSERVATION POST

**NEWS FOR WARGAMERS**
**BY STUART ASQUITH**



*RIGHT: Valiant Miniatures are now producing a range of 25mm figures for the First Carlist War 1833-1840.*



*Millenium III continue to add to their 25mm fortress range, shown here are a couple of ravelins. The figure is 25mm.*

## Fortress Additions

Millenium III (Albion Armouries, 69 North Road, Brighton, East Sussex BN1 1YD (01273 380006) have added to their 25mm stone fortress range with a watch tower (£1), tower doorway (£3.50), breached wall section (£7.50 pack of two) and a bastion added to it - this is one range which certainly continues to improve. UK postage and packing is 10% of order value, orders of £50 or more post free.

## The Carlist War

Valiant Miniatures (39 Hamilton Crescent, Hamworthy, Poole, Dorset BH15 4ET, tel: 01202 665223) are now producing a range of 25mm figures for the First Carlist War 1833-1840. These figures allow wargamers to refight the revolt led by Charles (Don Carlos) and his Carlist supporters against Queen Cristina of Spain. The first releases are out now and there will eventually be the infantry, cavalry and artillery for both sides and the international troops such as the Foreign Legion and the British forces involved. The Carlists are mostly depicted wearing a short jacket and the 'Cristino' line infantry are in campaign dress - greatcoat and cap. The castings of which there are 25 do far (several having up to six cast on head variants) are 50p each. They are very clean and well presented and the company have thoughtfully provided a comprehensive painting guide. UK/BFPO postage and packing is 10% (minimum 50p) post free on orders over £30. Fancy a period that's 'different?' Try the Carlist War!

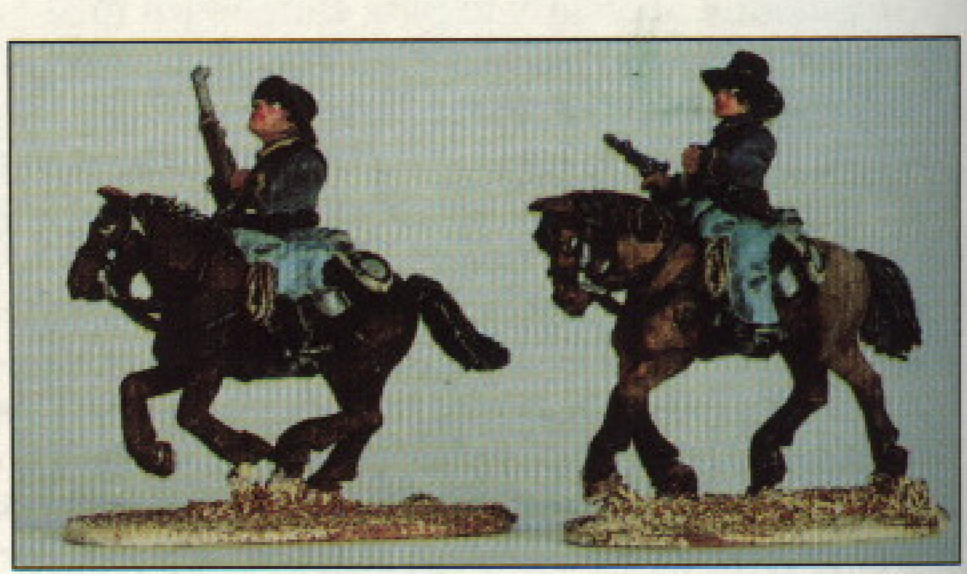
## New From Foundry

Wargames Foundry (The Foundry, Off Doyle Road, St Peter Port, Guernsey, Channel Islands GY1 1RG 01481 714241) now have some beautifully modelled 28mm castings representing Sergeant O'Brien's Detail of US Cavalrymen. There are seven mounted and pistol armed troopers, plus the 'character models' of Sergeant Firbolg O'Brien and Charley Reynolds a civilian scout, all with dismounted duplicates armed with carbines. There are also three new horses, two galloping and one trotting. The Detail is a complete set of 18 men and nine horses for £20 (UK), or individually at 70p for a figure, 90p per horse, either way plus 10% postage and packing. Also new are Custer's Old Sweats, a selection of nine US 7th Cavalrymen mounted and again with duplicate dismounted figures. The castings are depicted in fighting poses which are just right for the Little Big Horn and similar scenarios. New on the Napoleonic front are Prussian cuirassiers and dragoons 1813-1815. Both types of cavalry are depicted in the litewka (a long double breasted coat), so it is really only the head dress and horse furniture which differentiates them. The cuirassiers are wearing the helmet, while the dragoons have the oilskin covered shako. There are also figures in *feldmütze* (soft hat) or bare headed which would suit either role. There are five main figures for each type, an officer, standard bearer and trumpeter, a trooper with shouldered sword (there are six variants on these) and a charging trooper (separate right arm). There are three cuirassier horses and three dragoon horses. These are quite substantial figures which certainly look the part and are well worth the wait!

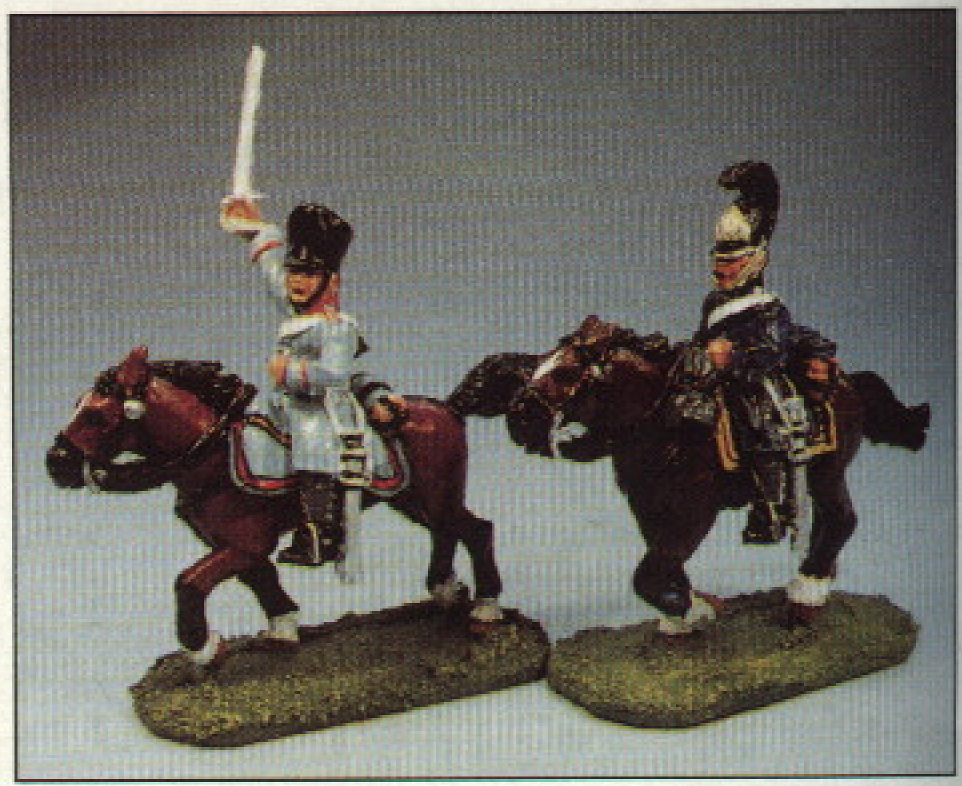
The Northern Bronze Age c1200-900BC range now has two chariots, with either a wicker or hide 'cab' and two horses. There are five new figures which are designed as chariot crewmen, so quite a variety is possible.

## Painting Service

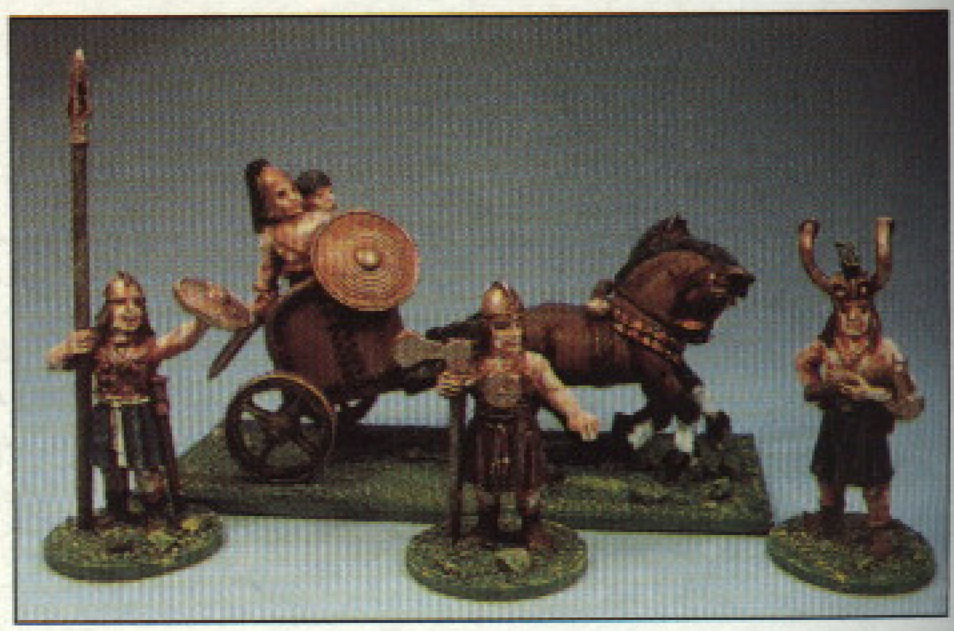
Battle Group Modern Figure Painting Service (14 Jameson Court, Russia Lane, London E2 9LT, tel: 0181-983 6647) recently sent in a Skytrex metal WWII German King Tiger tank c.1945 as a example of their vehicle painting service. The painting on the sample has been very well-executed and overall the vehicle certainly looks the part. The cost of making and painting such a tank model by Battle Group would be £12, including the base, but not including postage and packing. If you require any further information on the services they offer, contact Battle Group at the quoted address or give them a call. ■



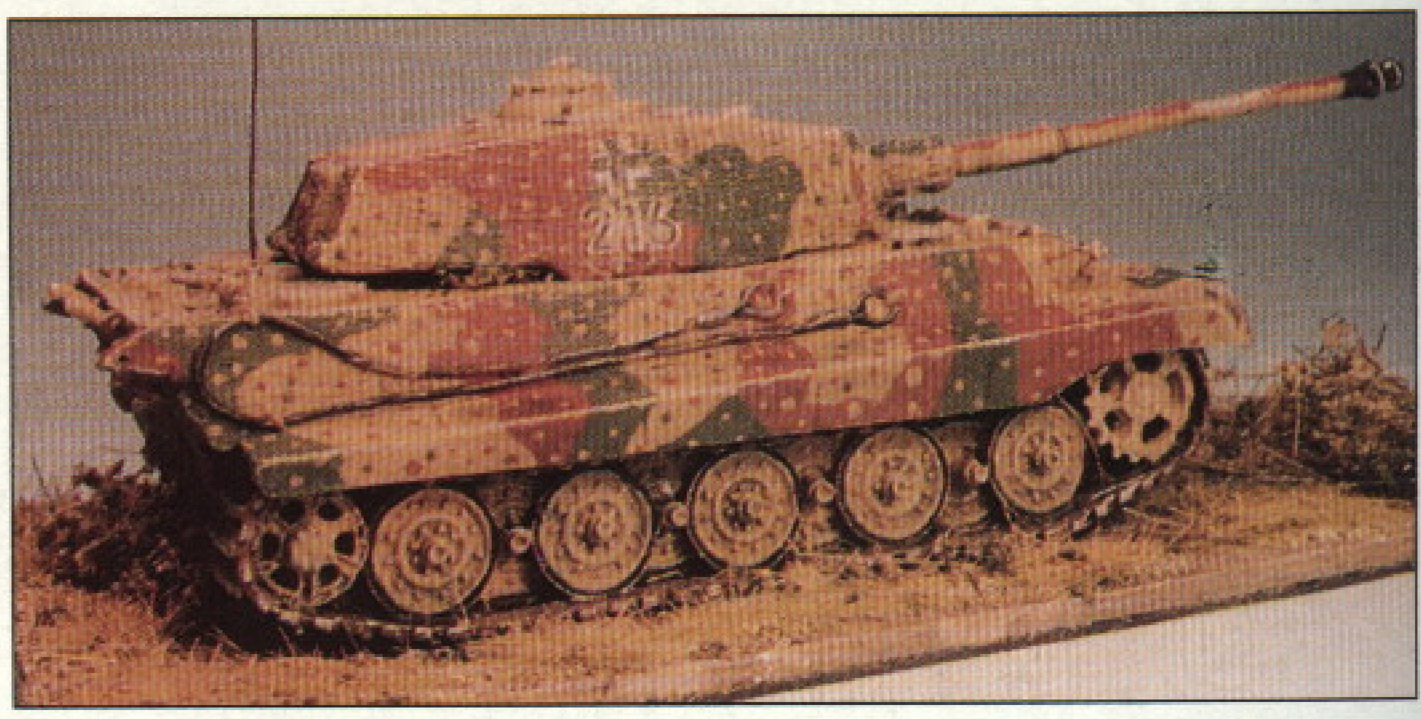
*A patrol from Sergeant O'Brien's Detail of US Cavalrymen by Wargames Foundry.*



*A Napoleonic Prussian dragoon officer (left) and cuirassier 1813-1815 by Wargames Foundry.*



*Wargames Foundry's Northern Bronze Age c.1200-900BC range now has two chariots and there are five new figures which are designed as chariot crewmen.*

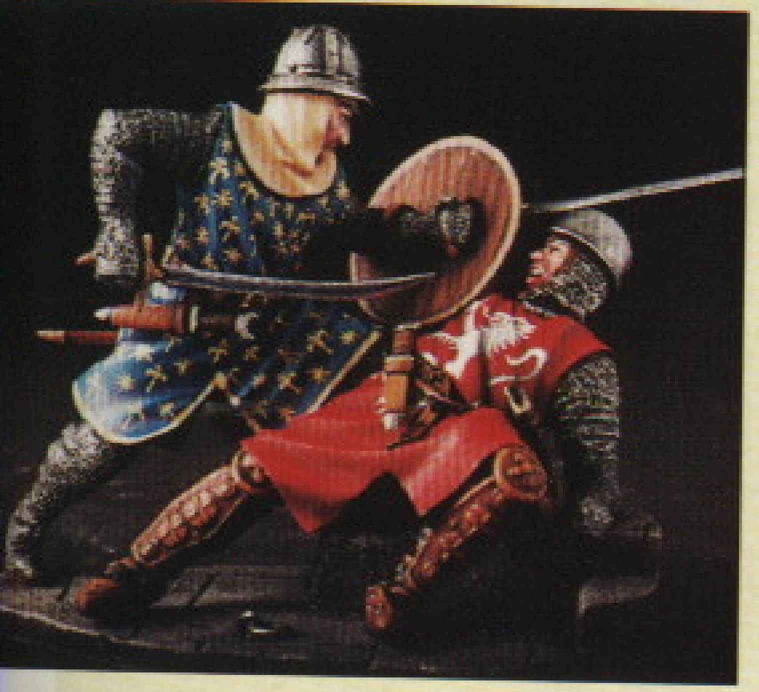


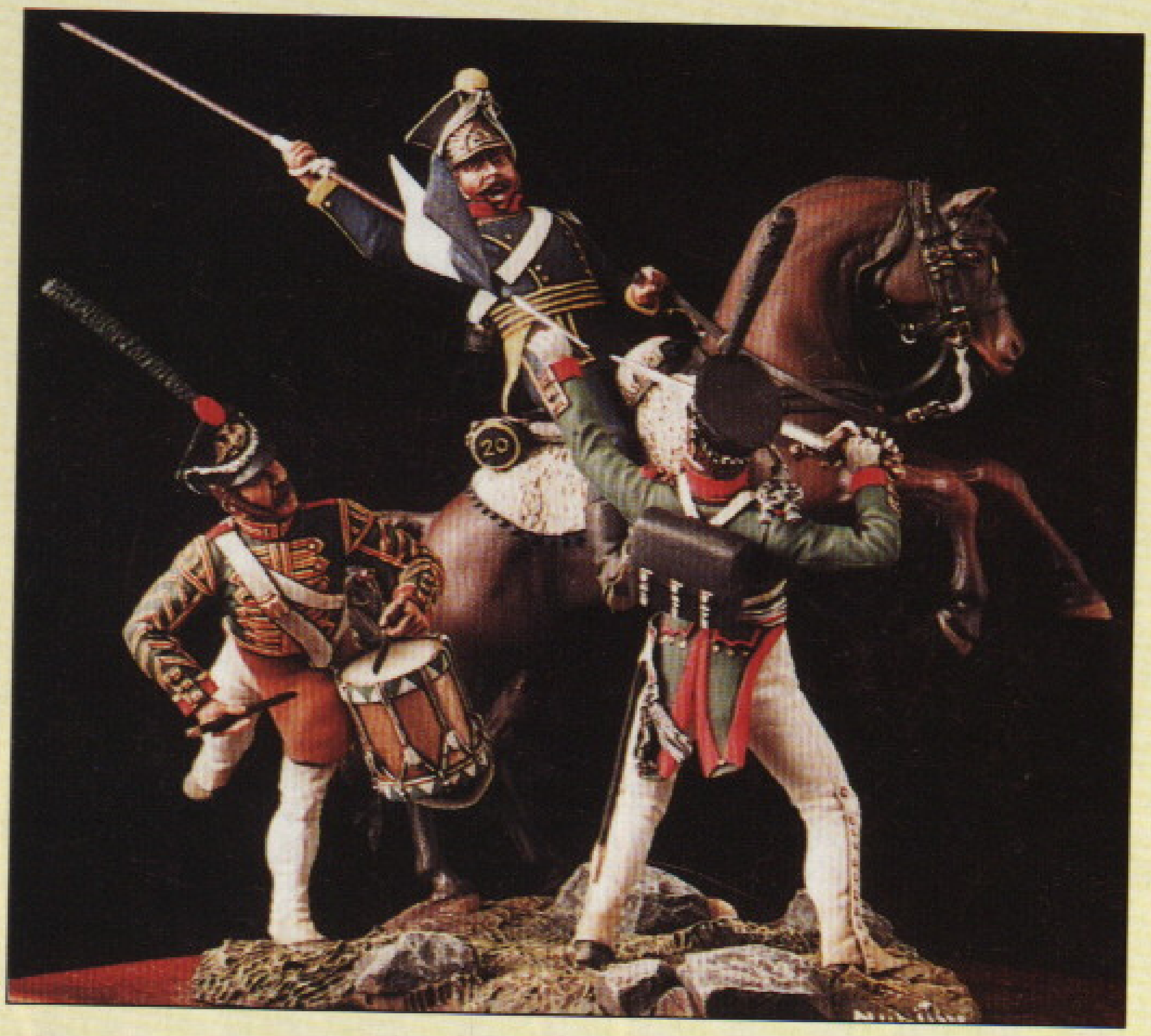
*A WWII German King Tiger tank c.1945 painted by Battle Group Modern Figure Painting Service.*

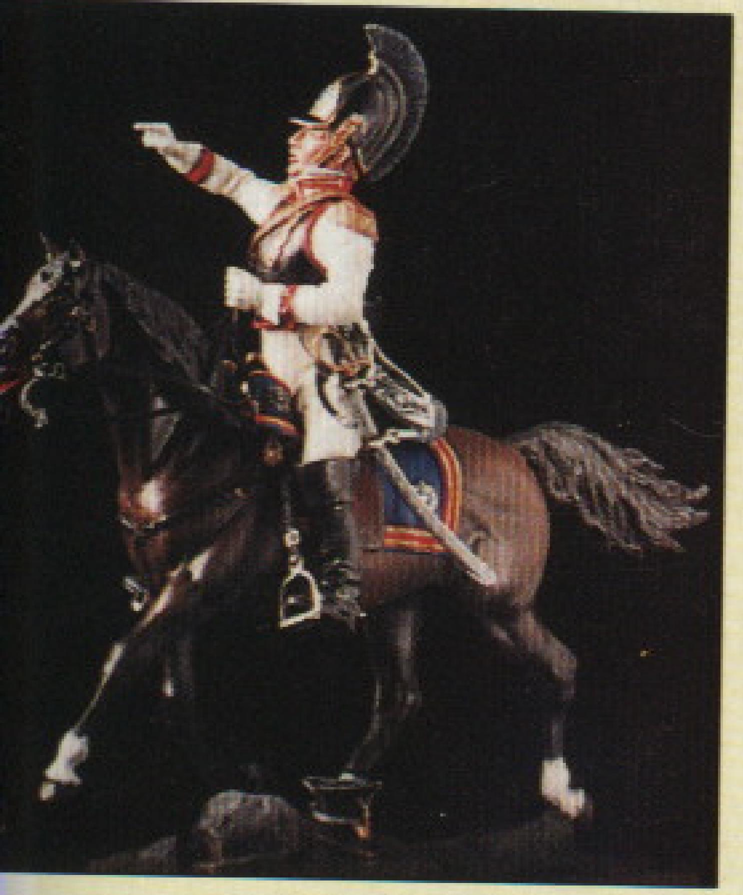
# ATTEN-SHUN!

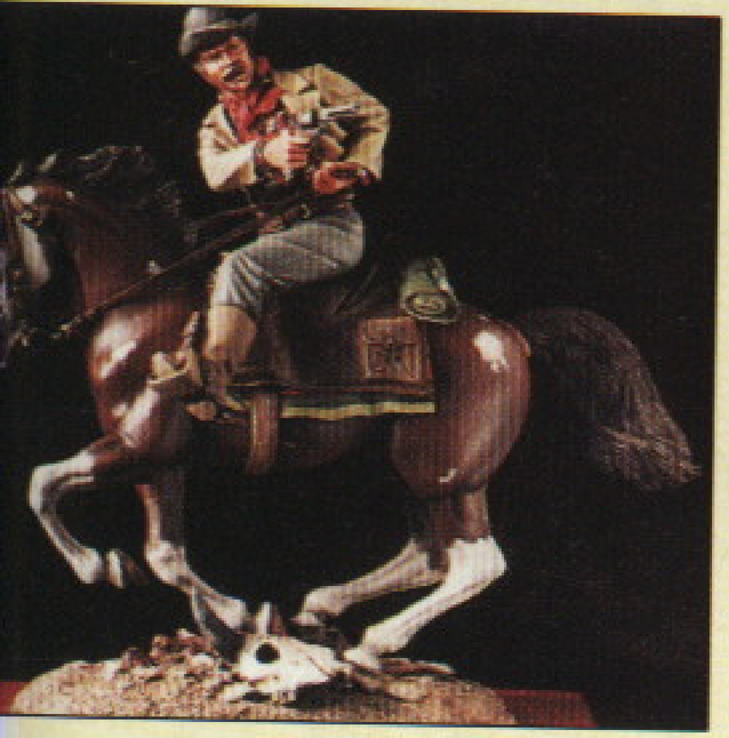
**The Editor welcomes product samples for review which should be sent to the Editorial Offices, Nexus House Boundary Way, Hemel Hempstead, Herts. HP2 7ST. Unless a prior arrangement has been made with the Editor, review samples will not be returned.**

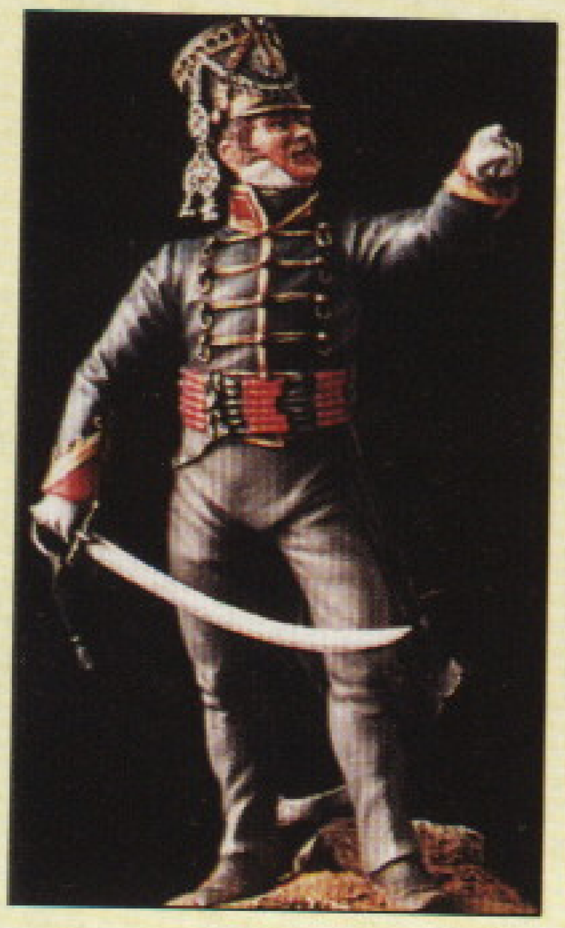
## NEW PRODUCTS REVIEWED

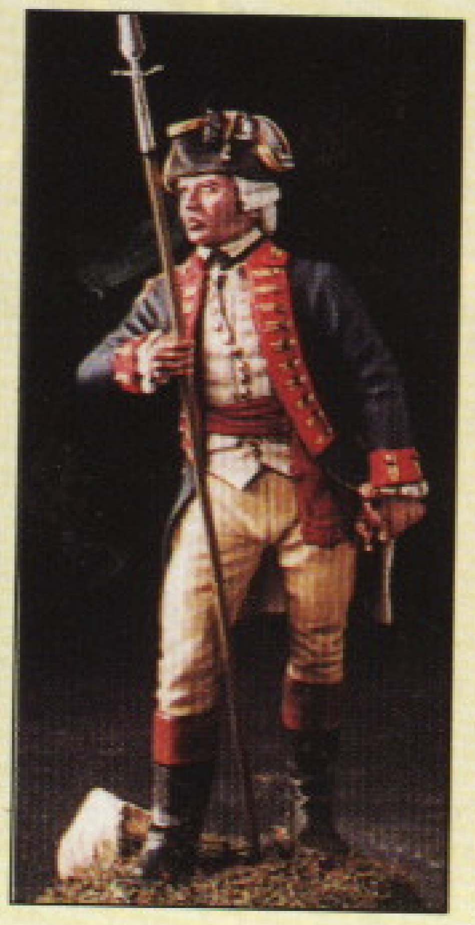


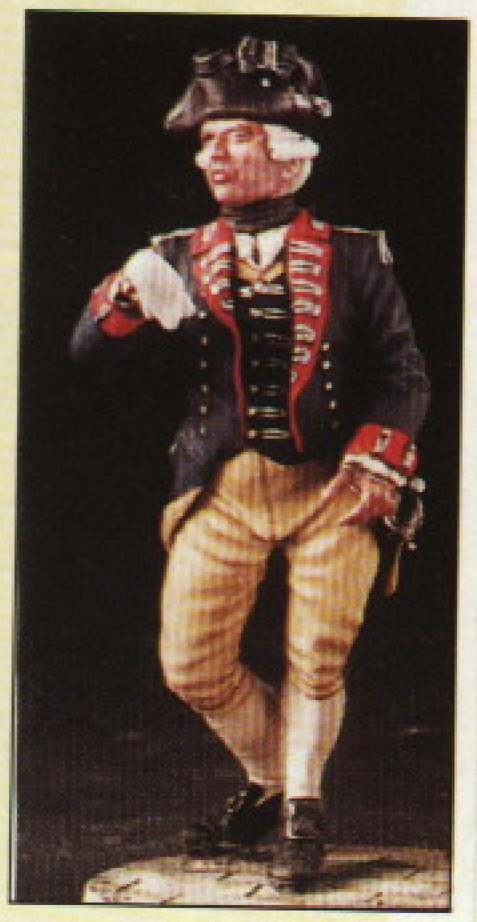












### Pegaso

Latest additions to Pegaso's 54mm range of white metal figure kits are a three-figure vignette, a two-figure 'fighting pair' vignette, two single mounted figures and three single foot figures. All are added to Pegaso's Elite range except for two of the three foot figures. The range is quite large; the figure kits are good, cast in good quality white metal they assemble easily enough, however, filler is required on most joins.

The two non-Elite Series figures are 54-061 an Officer of the 2nd New York Regiment American War of Independence, and 54-062 Colonel of Knox's Artillery Regiment American War of Independence; price £9.50 each.

The single 54mm Elite foot figure is a competent model of a Polish Hussar Officer 1810-14, which at £11.95 is more expensive than a standard range figure and has more parts.

Mounted figures in the Elite Series are 54-504 An American Pony Express Rider and 54-505 a Russian Horse Guards Officer, price £32.50 each. The Pony Express horse is at the gallop with the rider turning in the saddle, aiming his pistol to the side at some unseen enemy - presumably after the mail! The Russian Life Guards Officer is a good pose - the horse trots forward, the officer with an air of authority and urgency is pointing ahead.

The 'fighting pair' 54-807 is titled, 'Duel in Morea 1298' and has a Byzantine Palatine Guard fighting a Frankish Knight - the Byzantine having knocked the Frankish Knight down, who tries to defend himself on his back. Price of this pair is £26.50.

The three-figure vignette 54-808 is an action scene titled 'Borodino' (Moscow) 7th September 1812 with a Polish Lancer of the 20th Regiment, mounted, about to skewer a Russian officer of the Litowsky Guards Regiment whilst a Russian drummer runs to one side. It's quite a good grouping with the lancer's horse rearing, the Russian officer close in, trying to fend off the lance and use the point of his sword on the lancer. The whole lot fits onto the cast scenic base supplied. It all goes together fairly easily. Simply treat it as three separate figures to be assembled and painted then grouped on the base. Price is £61.50.

The kits are 50p postage and packing extra from Historex Agents, Wellington House, 157 Snargate Street, Dover, Kent CT17 9BZ, who stock the Pegaso range.

**K.M.J.**

*Prices in text*

*Pegaso Models S.r.l., C.P.99 - Siena Centro, 53100 Siena, Italy.*

### Eduard Model Accessories

Eduard products are made in the Czech Republic and have been available for some time, but this is the first time any have been sent for review - and these came via Terrence Jones at Eduard/Precision Parts with addresses in Canada and America. Terrance sent a good cross section of the photo etched metal parts for AFV models he stocks and has given prices in Canadian and US dollars. Unfortunately he has no sterling prices. However, these Eduard parts are available from outlets in the UK. Readers in North America interested in Eduard parts should note the addresses at the end of this review.

These parts are pretty good, accurately milled and the half-etched parts work quite well too. The parts usually follow the release of a kit from a major manufacturer, but they do not forget older kits which are in real need of extra detailing.I noticed a couple of golden oldies in the batch Terrance sent.

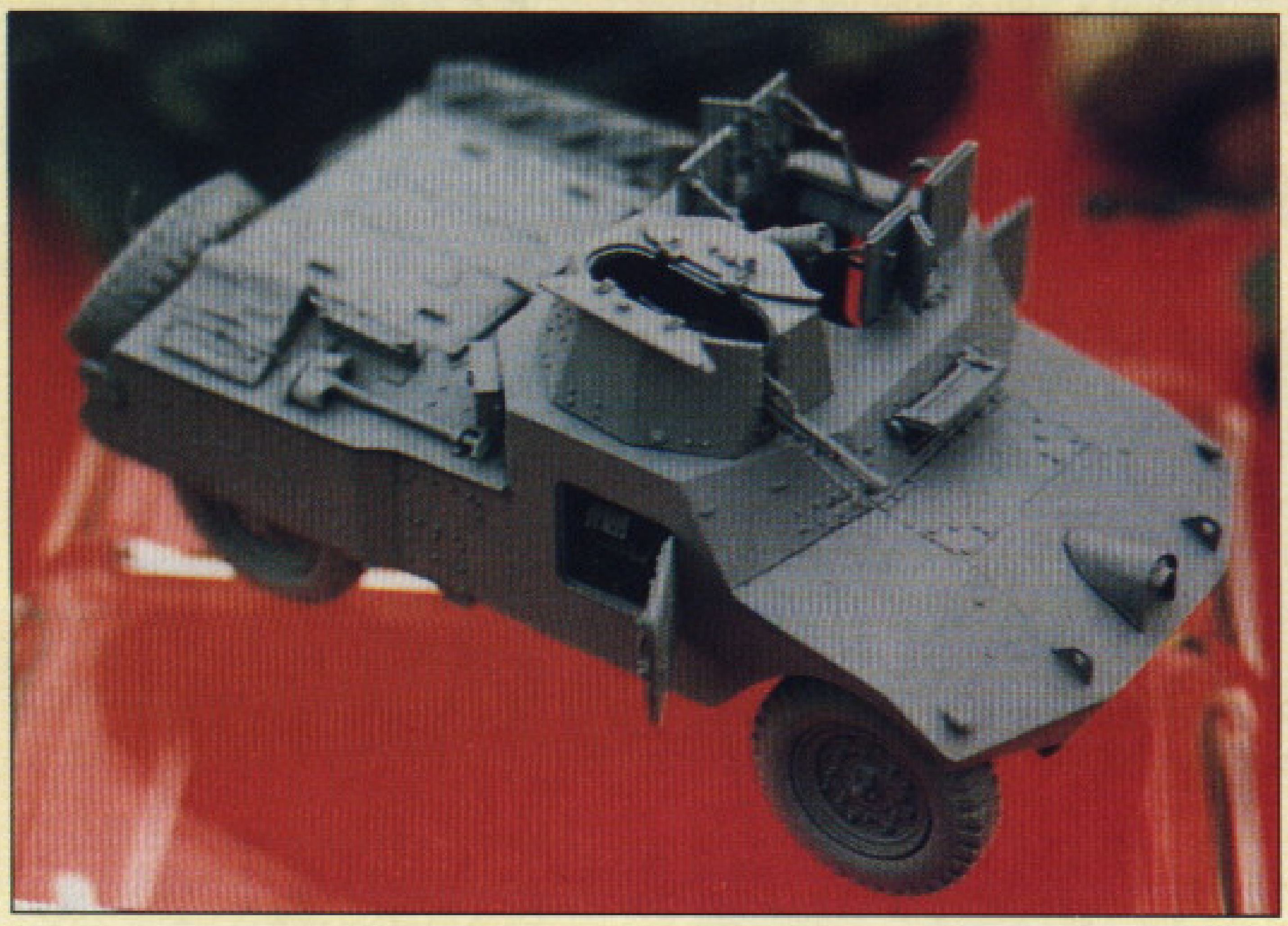
All are for 1:35 scale and have the prefix '35'; 138 Tamiya's Japanese Self Defence Force Type 90 tank (US$19.99 C$24.99); 139 Tamiya's M8 Howitzer Motor Carriage (US$19.99 C$24.99); 140 Italeri's M-7 Priest Motor Gun Carriage (US$19.99 C$24.99); 142 German floor plates type 1- a fine dot pattern (US$14.99 C$19.99); 143 Tamiya's Daimler Mark II Dingo Armoured Scout Car (US$14.99 C$19.99) if you can find one! 144German floor plate type 2 - diamond pattern (US$14.99 C$19.99); 145 for Tamiya's *PzKpfw III Ausf L* (US$19.99 C$24.99); 146 German floor plate plate type 3 (US$11.99 C$14.99); 149 Steel Runway Matting, this is the Pierced Steel Planking or 'sand channel' which links together by miniscule hooks into slots. (US$11.99 C$14.99); 150 Tamiya's new VW *Kübelwagen* (US$11.99 C$14.99); 151 Tamiya's Chieftain (US$19.99 C$24.99); 153 Italeri's *Marder III Ausf H* (US$19.99 C$24.99).

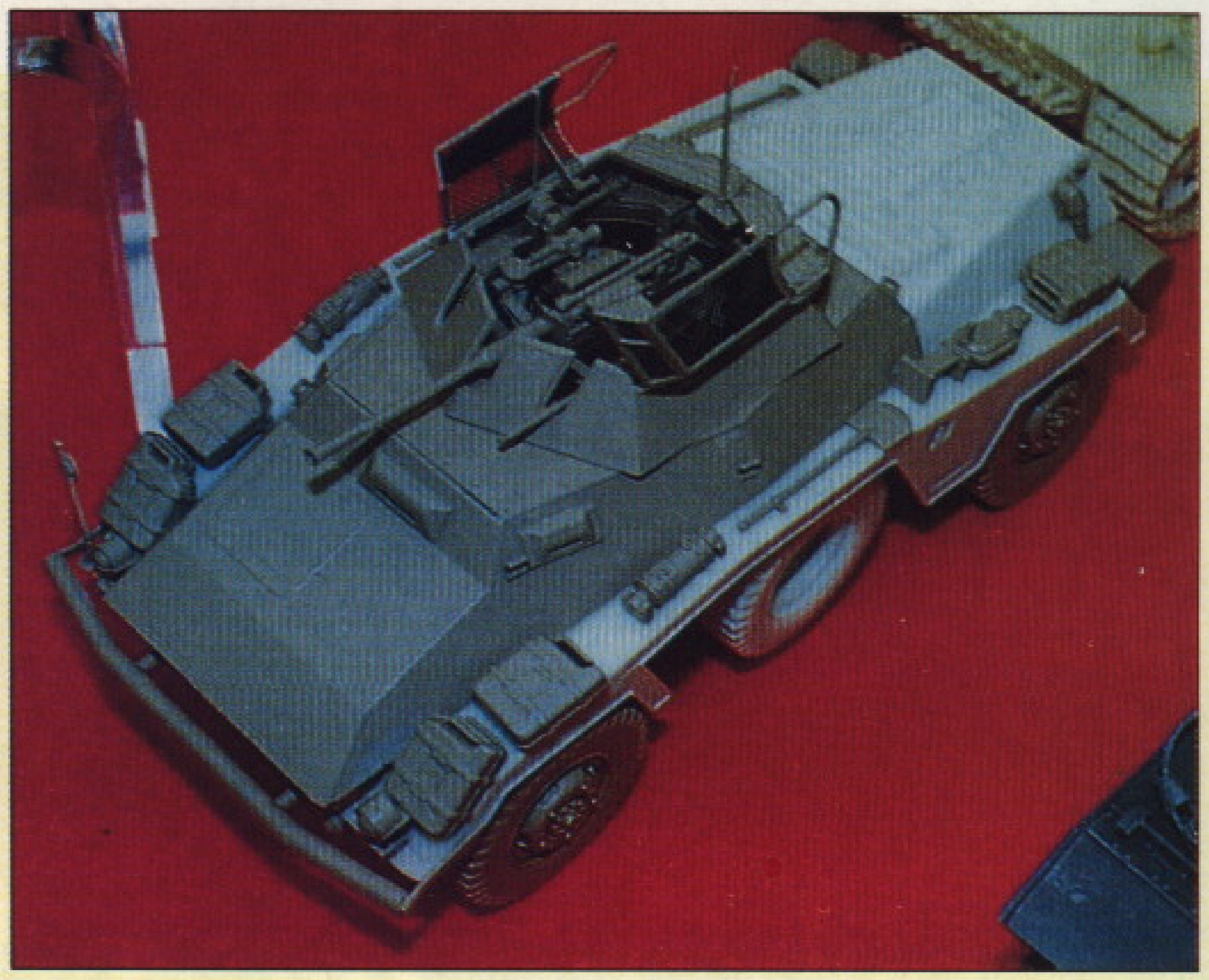
The Eduard range is now quite vast; the foregoing is only a small sample of it. Write for full listings and details.

**K.M.J.**

*Prices in text*

*Eduard Model Accessories, 49 Fair Oaks CR, Nepean, Ontario, Canada K2G 4W3 or 800 Proctor Avenue, Ogdensburg, NY13669, USA. Tel: (613) 224-9071. Fax: (613) 727-5288.*





## Cromwell Models

Two new kits have arrived from Cromwell for review, both armoured cars and all-resin. Their Morris Light Reconnaissance Car Mark II comes as a complete kit with full fighting compartment interior. This may sound complicated, but actually much of the detail is cast into the interior walls and plug-in floor units so it should be a straightforward build. The interior is accurate and easily visible through top and side hatches, so it's well worth doing a good job on this model instead of building it closed up. The pictorial instructions are fairly easy to follow, but there are no notes on interior colours - matt aluminium for the most part. A building report, with interior photos of the real thing, will be prepared for a future issue.

The *SdKfz 222 neuer Art* conversion produces the proposed late-War four-wheeled armoured car and is much simpler, basically a new hull to which you add the fighting compartment interior parts, forward hull top and turret from Italeri's *SdKfz 234/1.* It also includes two spare wheels to be stowed on the hull sides and replacement coil springs for the suspension. No instructions came with the review kit, but assembly of something this simple is so obvious that none are really required.

The castings of both kits are well up to Cromwell's usual standard, with plenty of cast-in detail, and will result in models of two interesting vehicles. Prices are £48 for the Morris and £25 for the *SdKfz 222 n.A.*

**J.P.**

**Cromwell Models, Progress House, 39 Kirkpatrick Street, Glasgow G40 3RZ, tel: 0141-554-2400; fax: 0141-556-7300.**

Revell
Sd.Kfz.142/3
PANZER III AUSF. M (FLAMM)
1:35
03022

## Revell

The flamethrower version of the German *PzKpfw III* tank has been released by Revell as a 1:35 scale injection moulded plastic kit - the *PzKpfw III Ausf M (Flamm).* This is basically the Dragon Models' (Gunze Sangyo, *et al*) kit of the same vehicle (not available in certain countries) re-boxed, 'remixed, and with Revell instructions, decals. etc. The kit is made in China and, like Dragon kits, assembles from a set of 'common sprues' indigenous to the *PzKpfw III* and *StuG III* family.

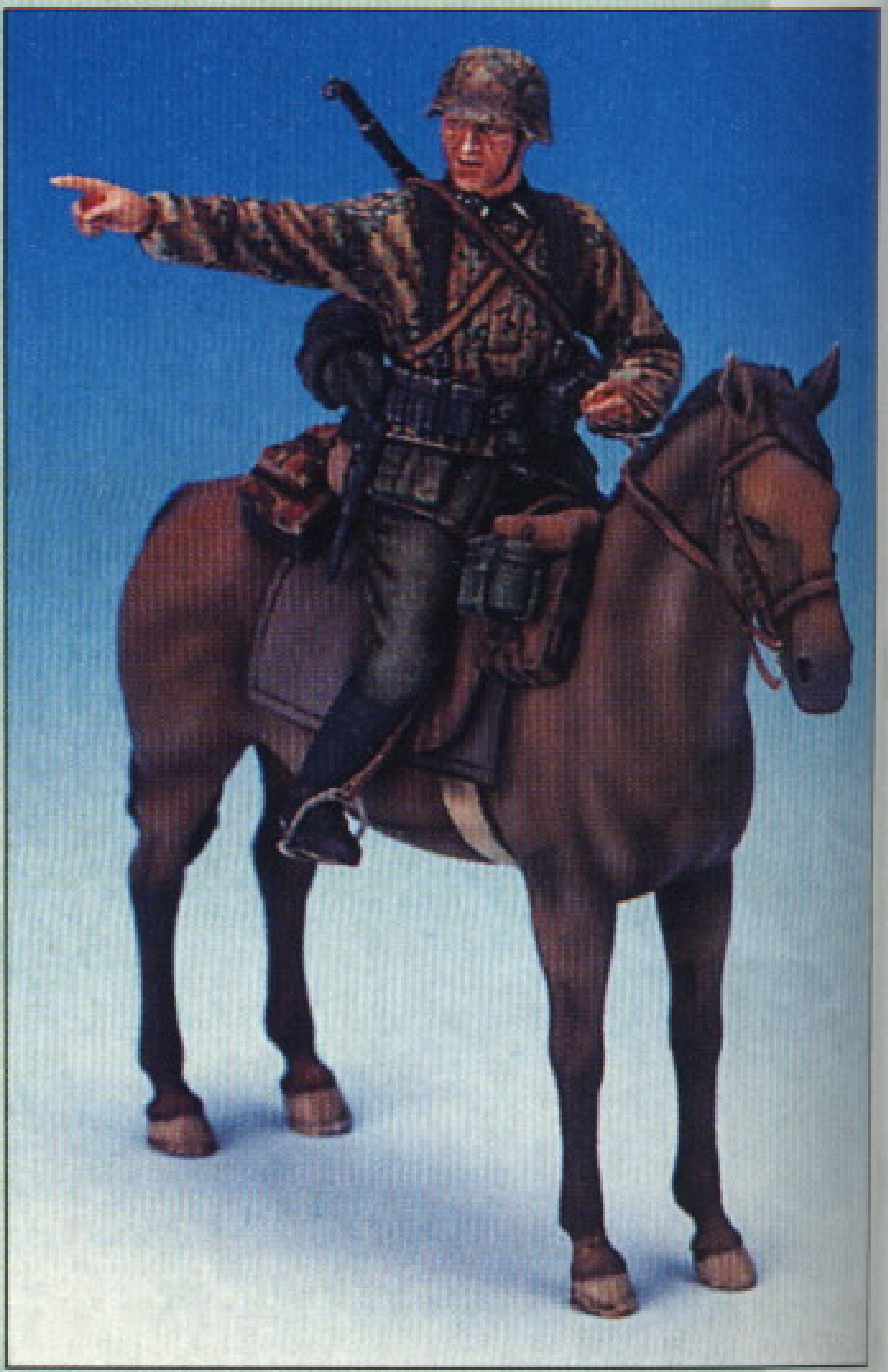
Revell describe their model as the *Panzer III Ausf M (flamm) SdKfz 142/3* whereas Dragon labelled their kit the *Flammpanzer III (F-1) SdKfz 141/3.* Not much to choose from, but Revell have added one to the *sonderkraftfahrtzeug* number (142/3?) for some reason or other. Wonderland Models (97-101 Lothian Road, Edinburgh, Scotland EH3 9AN) advertised the Revell kit (03022) retail £19.99 in Vol27 issue No.10 of this magazine at 25% off for £14.99 plus postage! Brian Sherriff Ltd, PO Box 6950, Forfar, Scotland DD8 3YF, had Gunze Sangyo 'flammpanzers' also advertised at £14.99 (postage extra) in the last issue - it pays to shop around and the adverts in this magazine are a good place to begin!

**K.M.J.**

**Prices in text**

**Revell, Binney & Smith (Europe) Ltd., Ampthill Road, Bedford MK42 9RS.**

## Dragon Models Ltd



A new 1:16 scale injection moulded plastic figure has been added to the Dragon 1/16 Warrior Series (120mm) and this time it's a mounted trooper of the WWII German Cavalry Division *Florian Geyer.*

Horse and rider are cast in Dragon's light grey polystyrene plastic, and a large circular, black plastic display base is also included. Built up straight from the box it will be an impressive addition to any collection of miniature figurines.

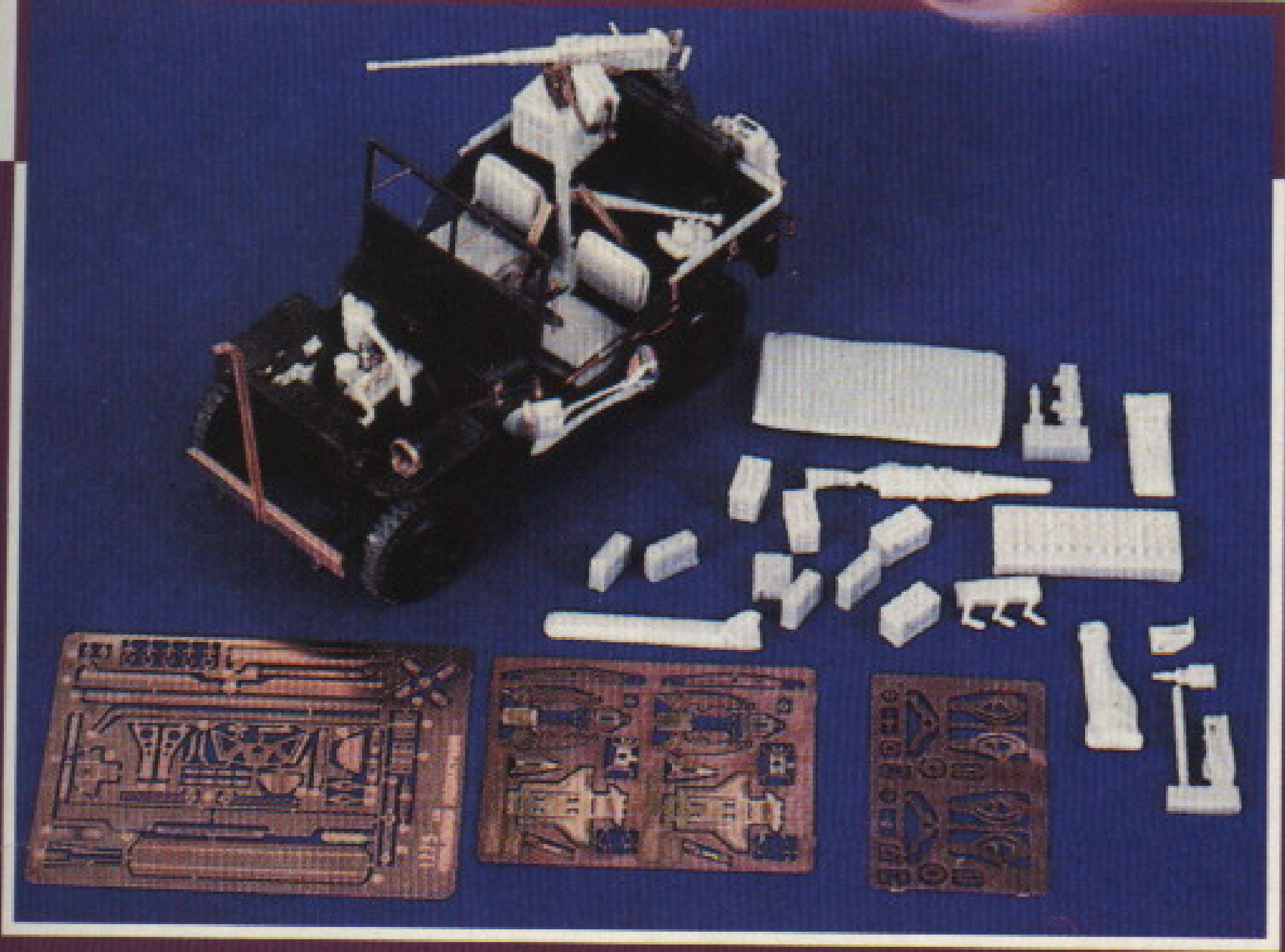
The horse occupies its own sprue and if I'm any judge Dragon will use this for future mounted figures. The horse has been designed standing still with has all feet on the ground - a pose that is excellent for kit converters. It has only a saddle cloth, girth and bridle moulded-on, which are easy to remove, and polystyrene plastic *is* easy to work! The rider is also easy to convert and the rest is up to your imagination. I believe Dragon have now eased the way to many more mounted figure conversions in this scale for a reasonable price.

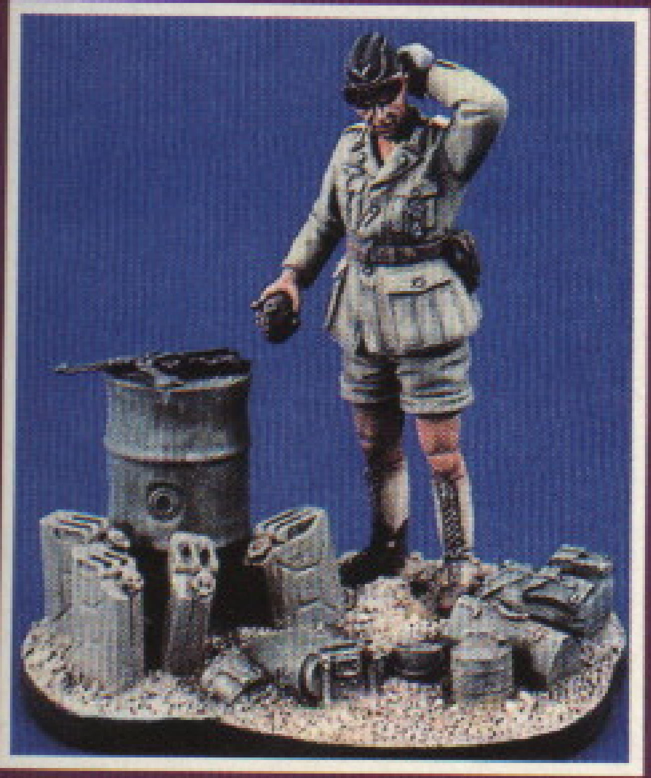
Our sample was sent direct from Hong Kong and no UK price was available at the time of going to press.

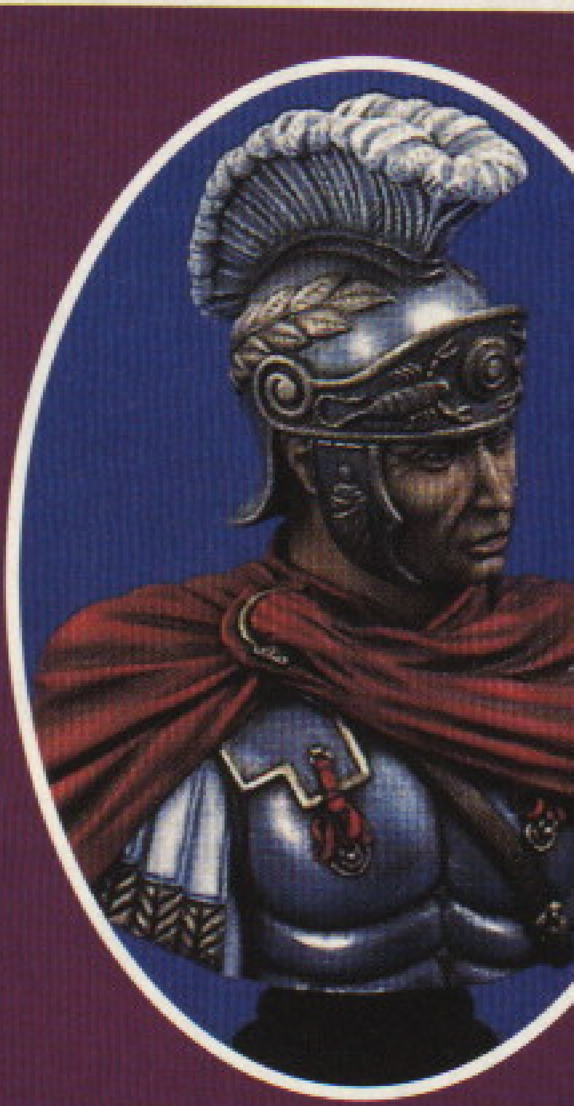
**K.M.J.**

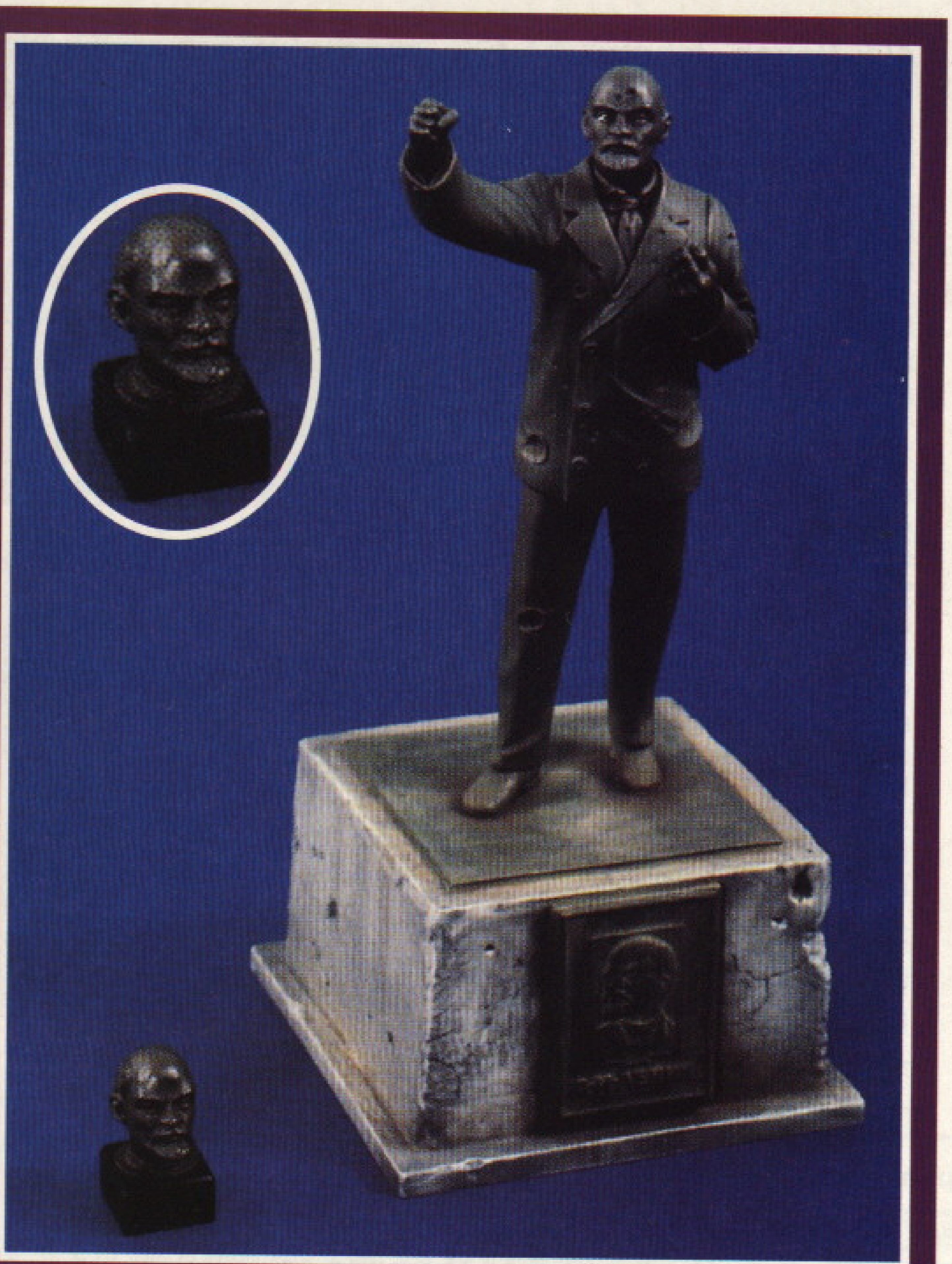
**Price: not available.**

**Dragon Models Ltd., 603-609 Castle Peak Road, Kong Nam Industrial Building, 10/Fl., B-1 Tsuen Wan, New Territories, Hong Kong.**









## Verlinden Productions

September's releases from Verlinden reveals quite a mixed bag of kits in most popular scales.

First up is a Super Scale 120mm kit of a 'fighting pair' - a fallen Celt and a Roman Legionary titled 'Death of a Celt', (No.1279 £46.95 + 50p p&p). The legionary stands over the Celt who, along with his shield, is moulded integrally with the scenic base, all superbly cast in polyurethane resin. Quite a good model built straight from the box, but with little prospects of any conversion.

A 200mm Roman Centurion bust (1:9 scale) is kit 1276, price £10.15 plus 50p postage. This one is a little more 'higher' in rank and appearance than a centurion, tribune or legate perhaps, and appears to owe more to Hollywood in appearance than surviving references and documentation of centurions with transverse horse hair crests on their helmets rather than the ornate sample here. Still, it assembles easily, six parts including a pillar base, and will please those who like to paint this type of model.

For 1:48 scale modellers an Avenger Superdetail Set for the Accurate Miniatures kit with lots of cast polyurethane resin and photo-etched metal parts is kit 1274, price £17.85 plus 50p p&p. Downed U.S. Navy WWII pilots in a Dinghy (two dinghies and two figures) comprise kit 1278 price £10.15 plus 50p p&p. On man is integrally moulded to the dinghy whilst the other is supplied in kit form and can be put in the other dinghy or added to the one with the 'cast-in' crewman.

The rest of the releases are for 1:35 scale modellers. Two detailing kits for the Italeri Willys Jeep provide a plethora of cast resin and photo-etched bits. Kit 1273 makes a 'Reconnaissance and Command' variant with a radio set and big wire stowage bin on the rear where the spare wheel is mounted, plus lots of stowage, price £11 plus 50p postage. The other Jeep detail set is 1275 price £12.95 plus 50p postage which has more parts than the recce set and includes many kit replacement parts, including a detailed .50 calibre machine-gun on a pedestal mounting and a .30 calibre too. Both kits have illustrated instruction sheets showing where everything goes.

The latest etched metal stencil from Verlinden has the numbers 1 to 0 to produce tank turret numbers with an outline. The etch has two series of numbers one slightly larger (the outline) which is sprayed onto the model first and the inner, which is sprayed over the outline colour. Careful use of the airbrush is called for and I'd recommend some practice runs off the model until you become fully conversant with the system. The etched template, No.1277 costs £7.95 plus 50p postage.

No. 1272 is the single figure of an *Afrika Korps* AFV Commander that fits to a cast scenic base replete with an oil drum, jerrycans, other containers and a field pack. Everything is cast in polyurethane resin and separate handles are provided for the jerrycans; the figure of the tank commander assembles from five parts, fitting on the scenic base where the boot marks are located. The pose is quite good; he's mopping the back of his neck and holding a water bottle or field flask in his right hand. Price is £8.95 plus 50p postage.

Finally, No. 1280 is a statue of Lenin, (Vladimir Ilyich Ulyanov Lenin1870-1924) the Russian Marxist revolutionary leader and writer. Lenin has a bit of battle damage, in the way of bullet holes, marks and gouges. There is a sizeable cast resin base, with a surface texture giving a good representation of stone with a metal plaque, with Lenin's head initials and name below. Lenin is in kit form, to be built up and mounted on it, in his archetypal 'oratory' pose. An extra head of Lenin is also included which is mounted on a square base.

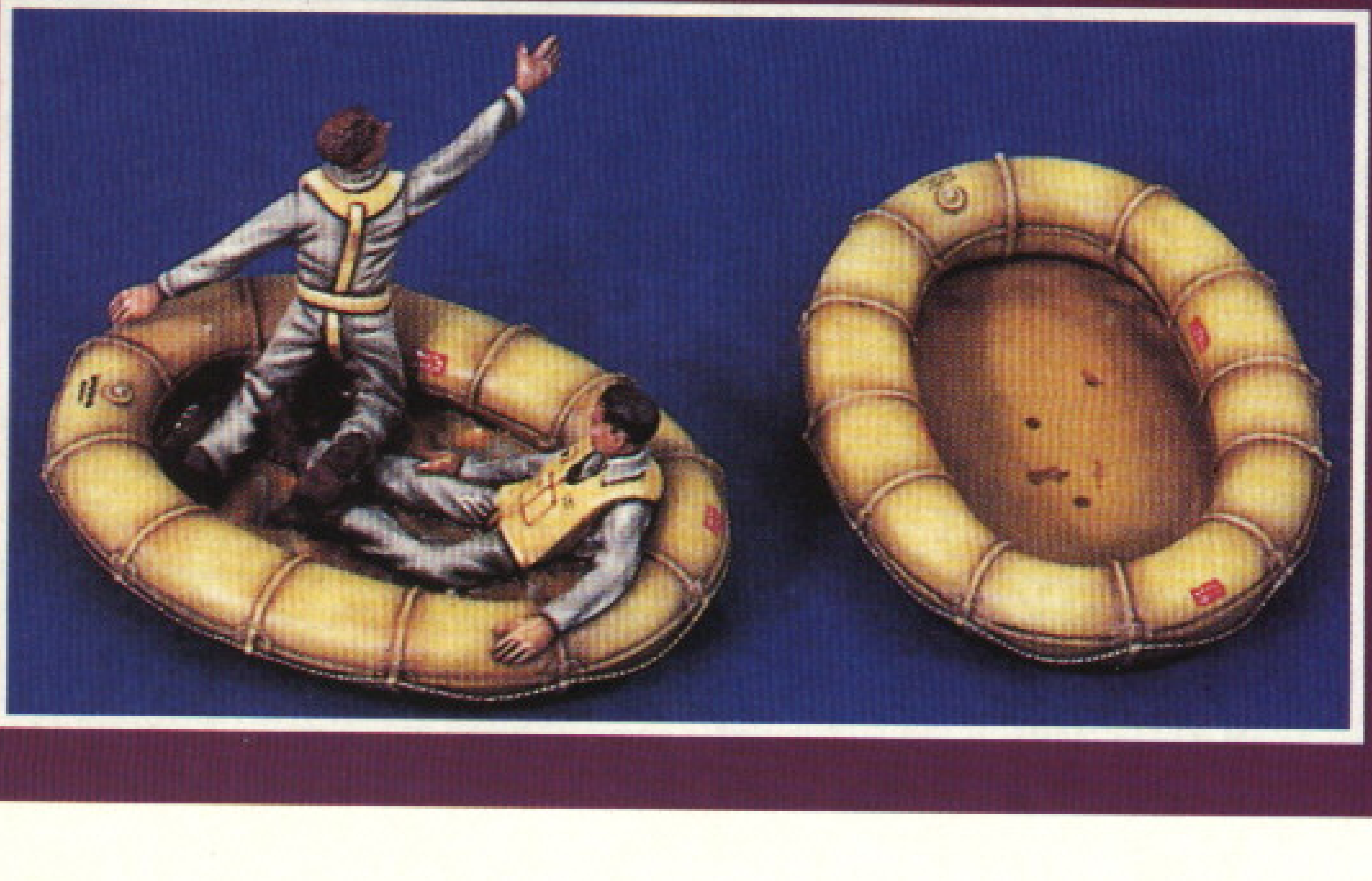
I suppose the statue, once assembled, and it is intended for 1:35 scale models, could be painted to represent stone or metal. It's an ideal and unusual accessory for diorama use. I can visualise it used as a centre piece with German soldiers standing around, sat on the statue and its base and, no doubt, we'll see many such ideas in competitions throughout the coming months. Or, how about using it as 'window dressing' on the same base as your Soviet tank model. Price is £22.50 plus 50p postage.

Verlinden Productions are available from Historex Agents, Wellington House, 157 Snargate Street, Dover, Kent CT17 9BZ.

**K.M.J.**

*Prices in text*

*Verlinden Productions, 811 Lone Star Drive, Lone Star Industrial Park, O'Fallon, MO 63366, USA.*



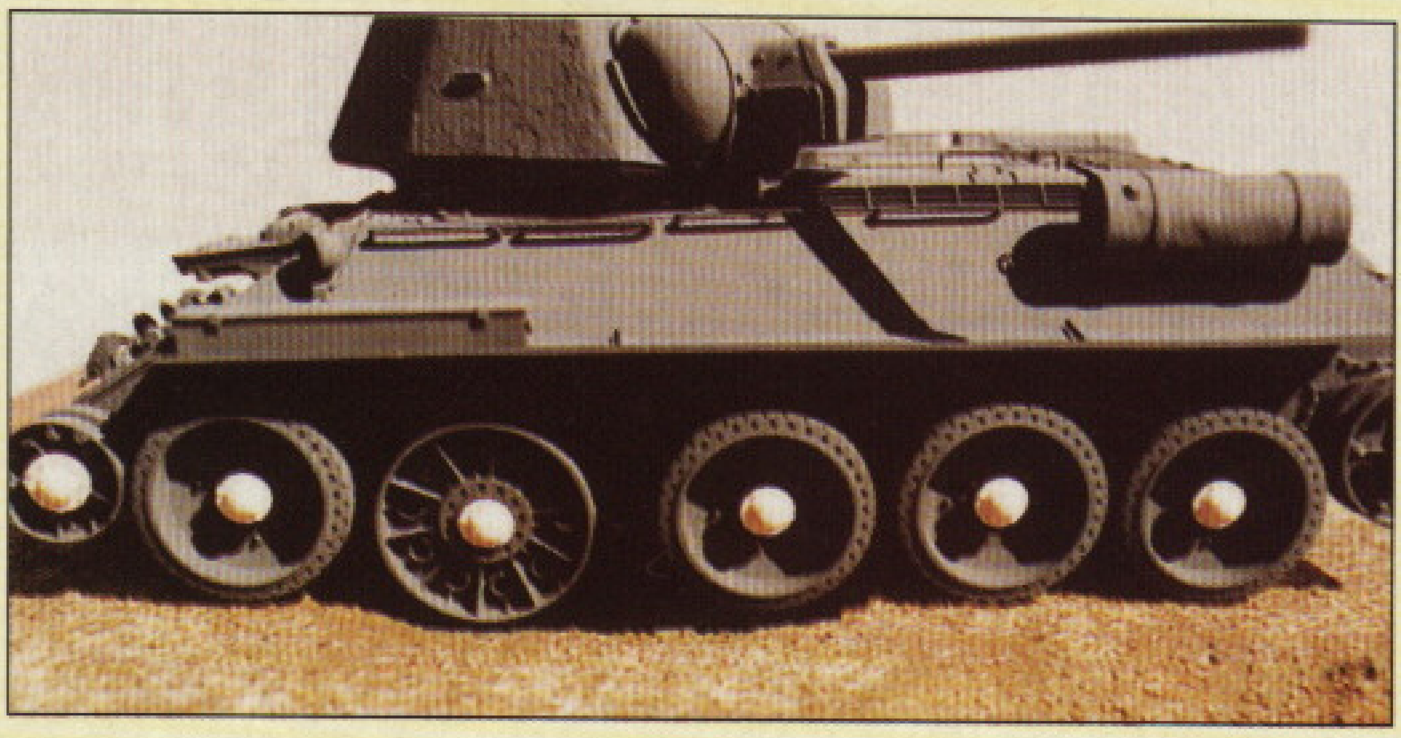
## Alix Baker

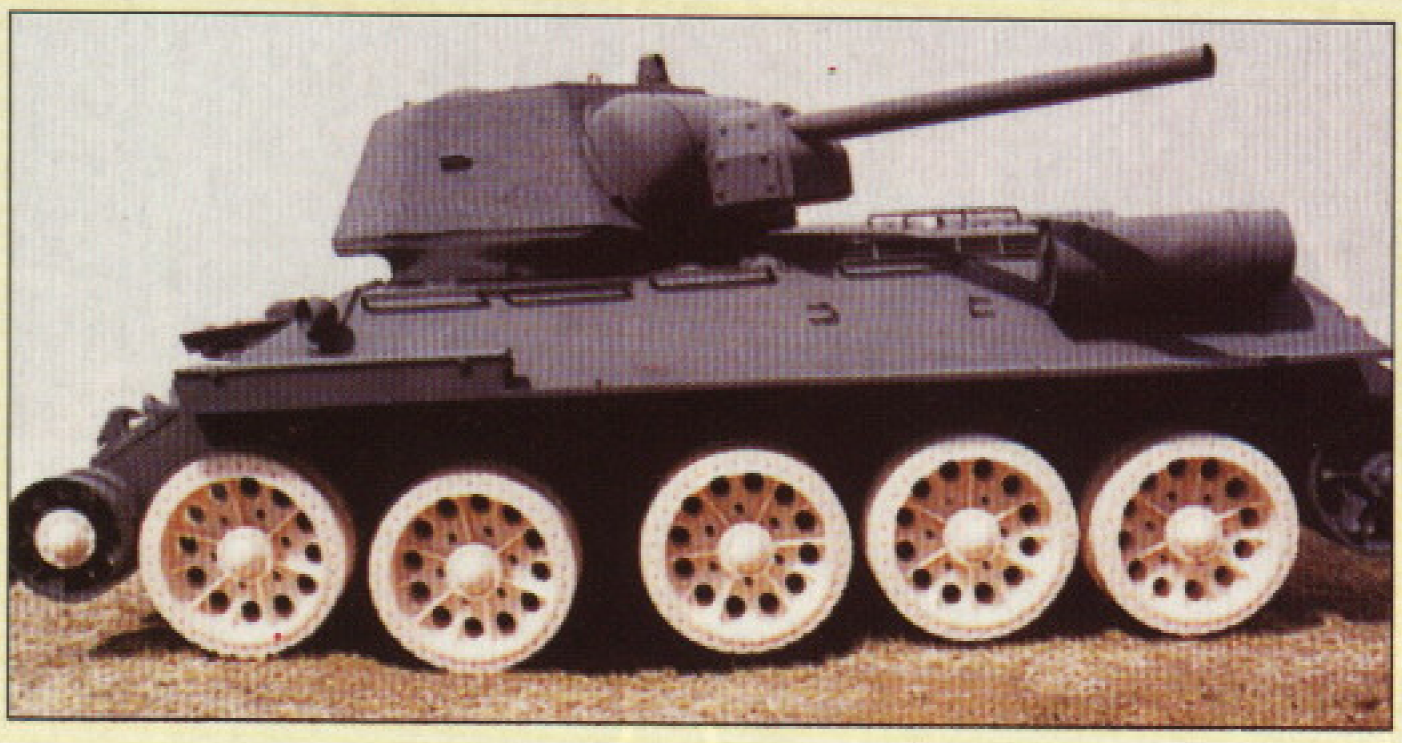
Alix Baker has just published her latest set of uniform postcards (Set 27) which, I believe, to be her best work yet. The set of nine cards deals with the new Royal Regiment of Gurkha Rifles formed when the old 2nd, 6th, 7th and 10th Gurkhas were amalgamated in 1994. The set shows all ranks in most orders of dress portraying some of the new distinctions worn by the Regiment. She has captured the facial characteristics of the Gurkha soldiers in a very skillful way. Highly recommended to both postcard and collectors of uniform information.

**R.J.M.**

*Price £4.25 plus p&p of 42p for the UK, BFPO and EU; 74p non EU Europe and £1.25 elsewhere.*

*Alix Baker FRSA,*
*The Orchards, Forton,*
*Longparis, Andover, Hampshire*
*SP11 6NN.*



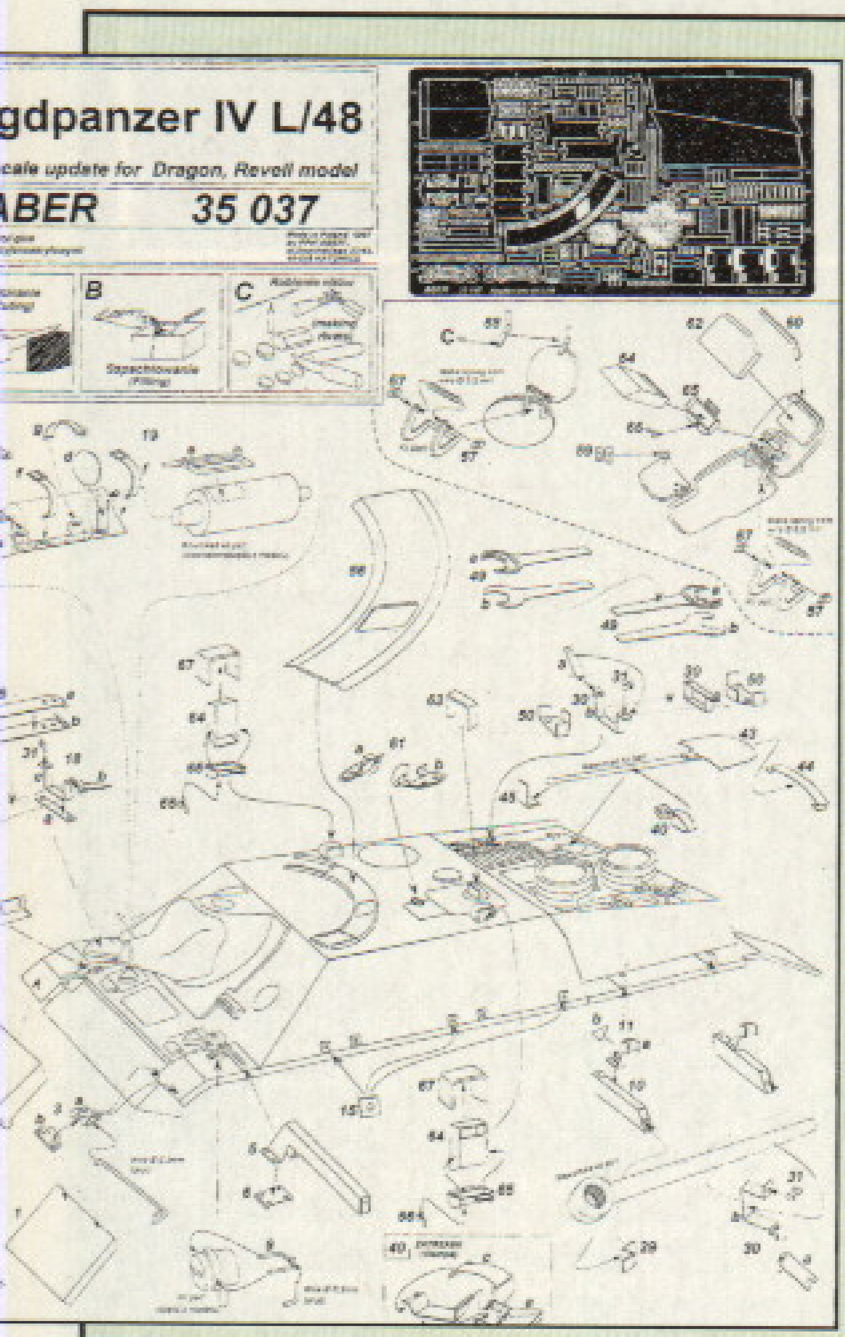


## Tank Maker

**L.S.A. Models have sent some 1:35 scale conversion kits and accessories for review under the Tank Maker label which are produced by US manufacturer, The Tank Workshop.**

**All are accessory kits for the Soviet T-34 and STZ004 is a set of replacement wheel hubs for Tamiya's T-34/76/85 tanks and the SU-122 and SU-85 assault gun kits. Cast in polyurethane resin the hubs replace the kit parts on roadwheels and idlers and cost £1.99.**

**A set of 1943 pattern pierced and ribbed road wheels for the T-34 is set STZ005, price £9.99. 'Inners' and 'outers' are provided with hubs and the inner wheels have a prominent web cast in which presumably should be removed (very carefully) before fitting, but there is no instruc-**



## ABER

Quality photo-etched brass update and upgrade sets made in Poland under the ABER label are now imported by Historex Agents of Dover. The ABER range is quite extensive and Historex hold a big stock of it. The sets not only cover AFVs and other vehicles, but extend to Cutlery and Kitchen Accessories' grilles, engraved floor plates, nets, machine-guns, barbed wire, nuts and bolts, chains, clamps, buckles and straps, etc. There's also a range of ships accessories in the popular scales. These are 'cleanly cut' frets and some items have more than one in the pack to ensure every possible detail is included. An illustrated instruction sheet with a Polish/English text is included in the pack. This has hints and tips on how to use the parts to the fullest advantage.

Some of the latest releases are a detail set for Dragon's *Flakpanzer V Coelian* (AB35036 £12.90), *Jagdtiger IV* L48 from Dragon or Revell (AB35037) price £9.25. Tamiya's 'King Tiger' *PzKpfw VI Ausf B Tiger II* (AB35040) gets the detail treatment for £12.90. Dragon's *Jagdtiger SdKfz 186* and *PzKpfw III Ausf E* have detail packs for £10.85. These frets have lots of parts to satisfy the most fastidious of modellers.

Side skirts for the King Tiger (AB35A40) and *Jagdtiger* (AB35A41) are standard sets for a standard price - £10.65. Front and back fenders for the King Tiger and *Jagdtiger* (AB35A42) are £6.90. A set of fenders for the Jagdpanzer IV (AB35A37) cost £9.25.

Cutlery and Kitchen Accessories (AB35A36) is a super set which figure modellers may like to consider with lots of knives, forks, plates, cups, dishes and other impedimenta. You get a good amount of minuscule items that would be very difficult to reproduce as convincingly other than by photo etched chemical milling. This set costs £9.25. All items are 50p postage and packing extra from Historex Agents, Wellington House, 157 Snargate Street, Dover, Kent CT17 9BZ.

**K.M.J.**

*Prices in text*

*PPH ABER, 40-018 Katowice, ul. Sowinskiego 37/43, Poland.*

## EMI

**Boxed figure sets, sometimes two to a box, are the hallmark of Italian manufacturer EMI and samples of their latest, which are all 54mm except for one 90mm, have been sent direct for review. The kits are cast in white metal and include parts for a scenic base.**

**RGT 01 is an officer and musketeer of a New Model Army Redcoat Regiment,**

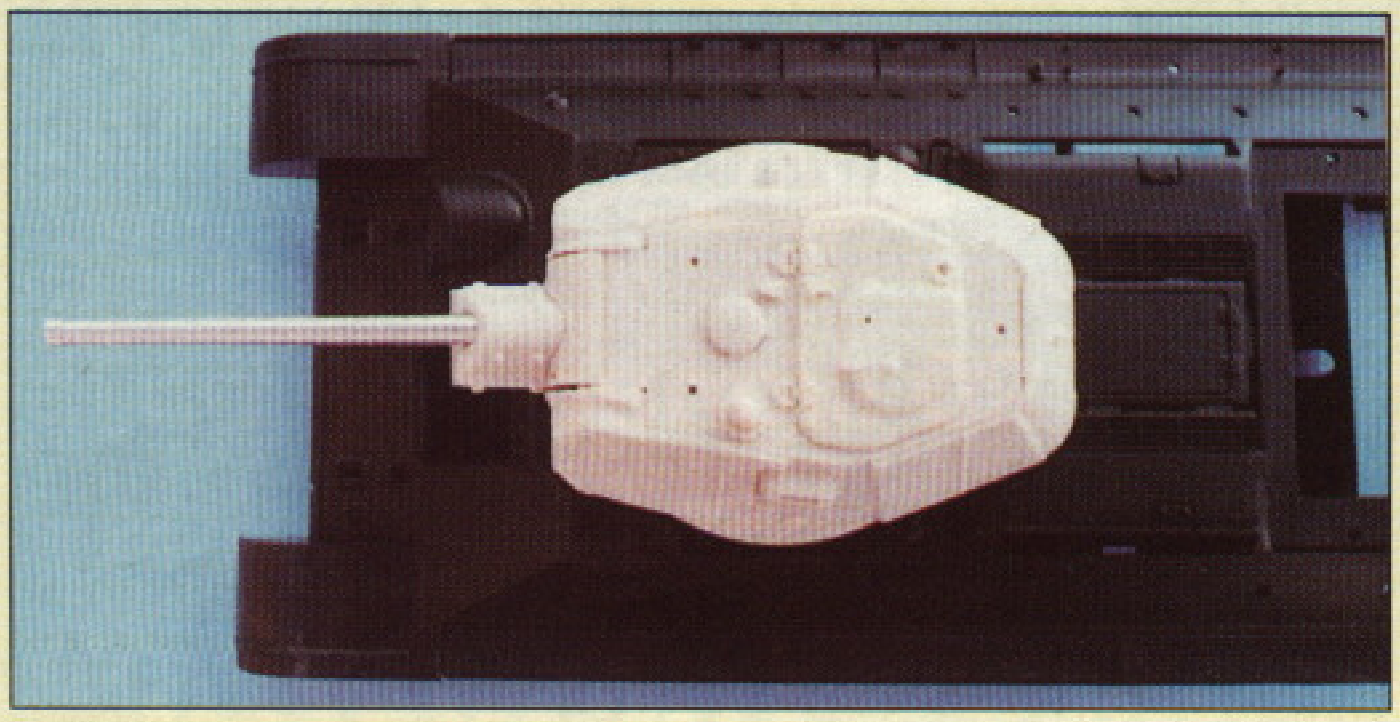
tion in the kit to the contrary, only a colour photograph showing them in place on a T-34 model.

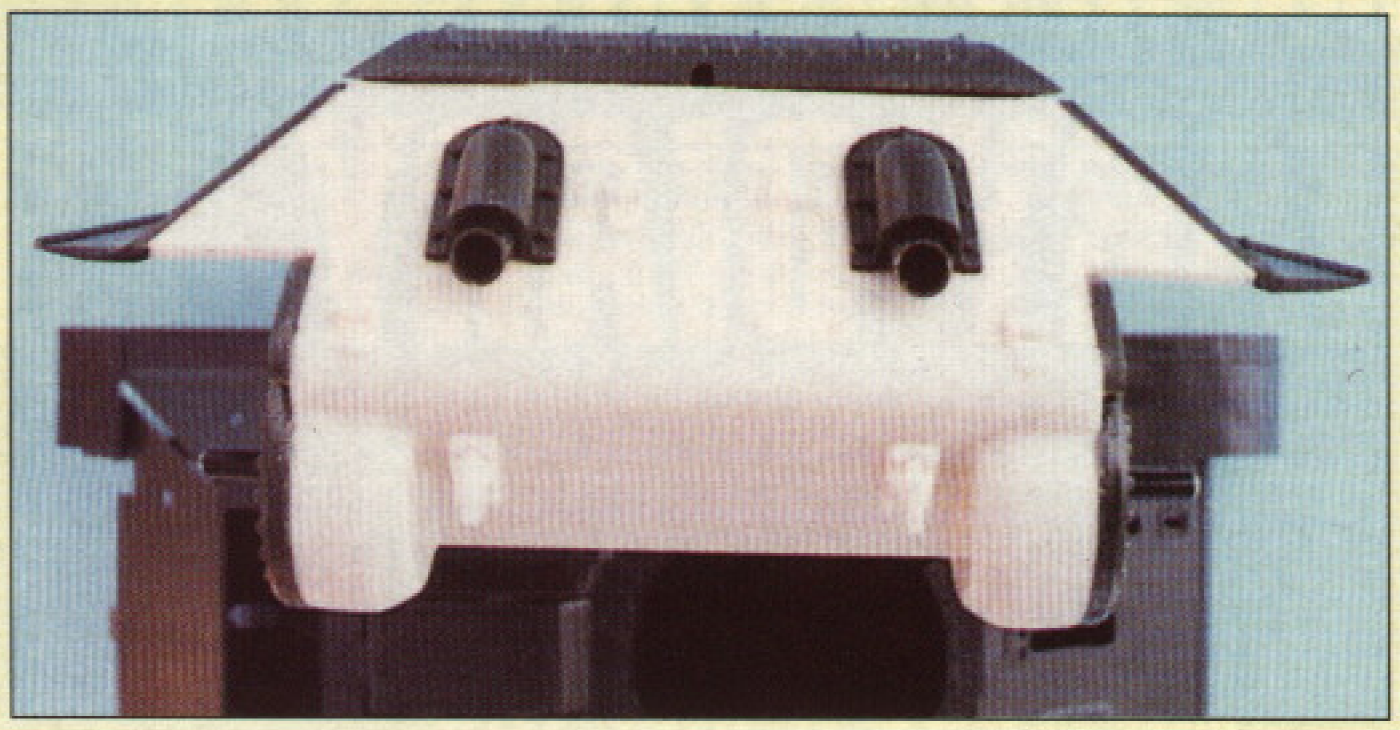
STZ010 provides rear plates, upper and lower with the final drive housings, for the 1940/41 model of the T-34 which has the square transmission access hatch for the Tamiya T-34 1942/43 model. STZ011 is an uparmoured turret, Leningrad Appliqué version for Tamiya's 1942/43 kit. A complete new turret, in kit form is provided to replace those in the kit. The bonus is a turned aluminum barrel for the 76.2mm main armament. UK stockist is L.S.A. Models, 3 Hawkins Crescent, Shoreham-by-Sea, East Sussex, BN43 6TN. Tel: 01273 592775. Fax: 01273 705420.

**K.M.J.**

*Prices TBA*

*The Tank Workshop, 16231*
*North 39th Street, Phoenix,*
*Arizona 85032, USA.*





## Friulmodel

Three new sets of white metal separate link tracks for 1:35 scale kits of the *Jagdpanzer 38 Hetzer* late pattern ( ALT35), *PzKpfw II Ausf L Luchs* (ALT36), and *Tiger II* late pattern. Each pack contains 210 separate, highly detailed cast white metal links which can be assembled to articulate using wire supplied in the pack.

The idea is to cut the wire to size for 'track pins'. Do this before you attempt to assemble the links up into track lengths to negate any tedious feelings arising from the process. Each link is a clean, separate casting with no moulding pips, sprues, gates or anything attached. They are highly detailed and if you haven't seen this system before you will be in for a pleasant surprise. Granted, they are not exactly cheap at £27.50 a pack and much more than the average 1:35 plastic AFV kit. In fact, I could get three or more Italeri kits for the price!

I don't think there is a 1:35 scale plastic kit of the Lynx *(Luchs)* available, but it has been made by resin kit manufacturers. There are certainly plenty of candidates for the two remaining track sets, however.

Historex Agents, Wellington House, 157 Snargate Street, Dover, Kent CT17 9BZ can supply the Friulmodel tracks mail order plus 30p postage.

**K.M.J.**

*Prices in text*

*Friulmodel, Via Pazzan, 73-*
*33010 Pagnacco, (UD) Italy.*

English Civil War 1648, price £31 in the Regiment series. MOF 06 is a pair of Sienese foot soldiers at the Battle of Montaperti, Tuscany 1260, price £31.These build up into quite convincing little scenes, easy to assemble and a joy to paint. The fit of parts is good but a wipe of filler is needed here and there around the joins.

The remainder are single figure studies - TER 01 is a 90mm study in the Tercio series, a very good model of a French Line Infantry Voltigeur Hornist, Peninsular Wars 1812. He is posed running, head turned to the rear about to blow a call on his horn and costs £40.

TER 02 is a Spanish Sergeant of Conquistadors on guard with sword and shield to a, presumably, dangerous snake curving towards him on the ground, in front of him. He looks quite surprised; price is £16.

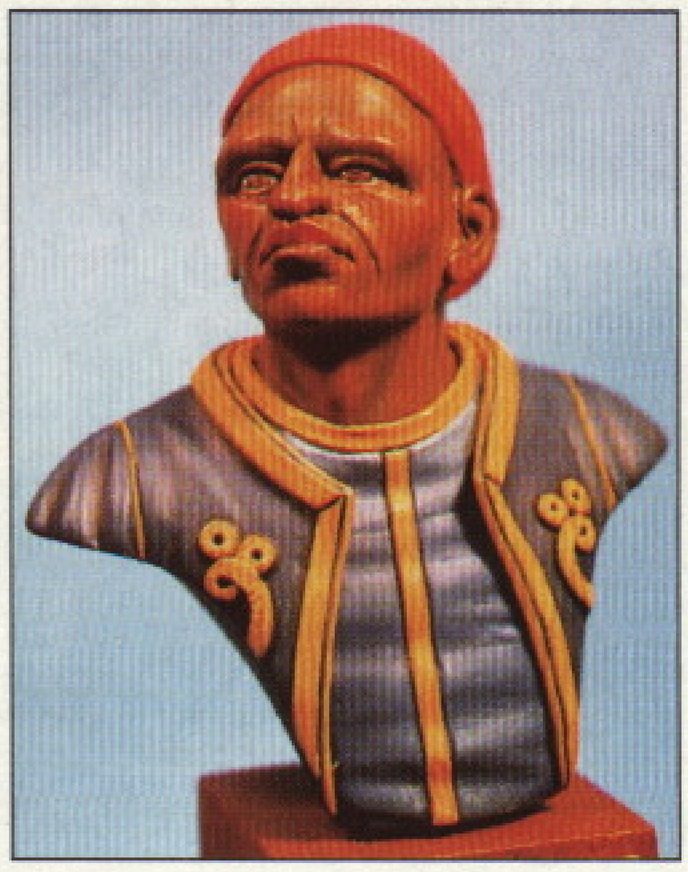
Finally, GLC 02 represents an '8th century BC Villanovan Warrior at his father's funeral!' in the Gladius. I don't pretend to understand the actual significance of this one, save the descriptive title, but it is quite a good pose of this 8th century warrior; I do recognised the helmet and shield style from illustrations on these types. Price is £30.

The prices quoted are the manufacturers and postage is extra at 15% Europe and 35% elsewhere. I don't know a UK supplier, but a letter with an IRC should bring EMI's list.

K.M.J.

*Prices not available*

*EMI, Via Inama 1, 20133,*
*Milan, Italy. Fax: 39-2-*
*70109365/39-2-29522214.*



## Sant Yago

A Spanish manufacturer new to our column is Sant Yago Miniaturas who make 200mm (1:9 scale) busts, cast in polyurethane resin.An Algerian Tirailleur (ER-04) was sent for review and this comes in a poly bag with header card, containing the cast resin parts instructions and a colour illustration of an assembled and painted model. The casting is clean and of course, the final result will always lie with the skill of the painter, whether the job is creditable or not remembering the larger the face the more difficult it is to paint the flesh convincingly.

There appears to be 12 busts on Sant Yago's list with nine available and three more to follow.These are JA-03 British Officer 44th Regiment, ER-04 Algerian Tirailleur, ER-05 Viking Raider, ER-06 Mongol Warrior, ER-07 Ciber-droid, ER-08 Sioux Chief, ER-09 Abe Lincoln, ER-10 Pawnee Brave and E-11 Old Commanche Chief. All are 2,900 ptas except ER-08, ER-10 and ER-11 which are 3,200 ptas each. Payment is preferred by International Money Order postage and packing is 15% extra for Europe and 25% overseas. P&P is free on orders over 20,000 ptas.

**K.M.J.**

*Prices in text*

*Sant Yago Miniaturas, C/San Pedro*
*de Mezonzo 41 3º A, 15701*
*Santiagod de Compostela,*
*La Coruna, Spain.*

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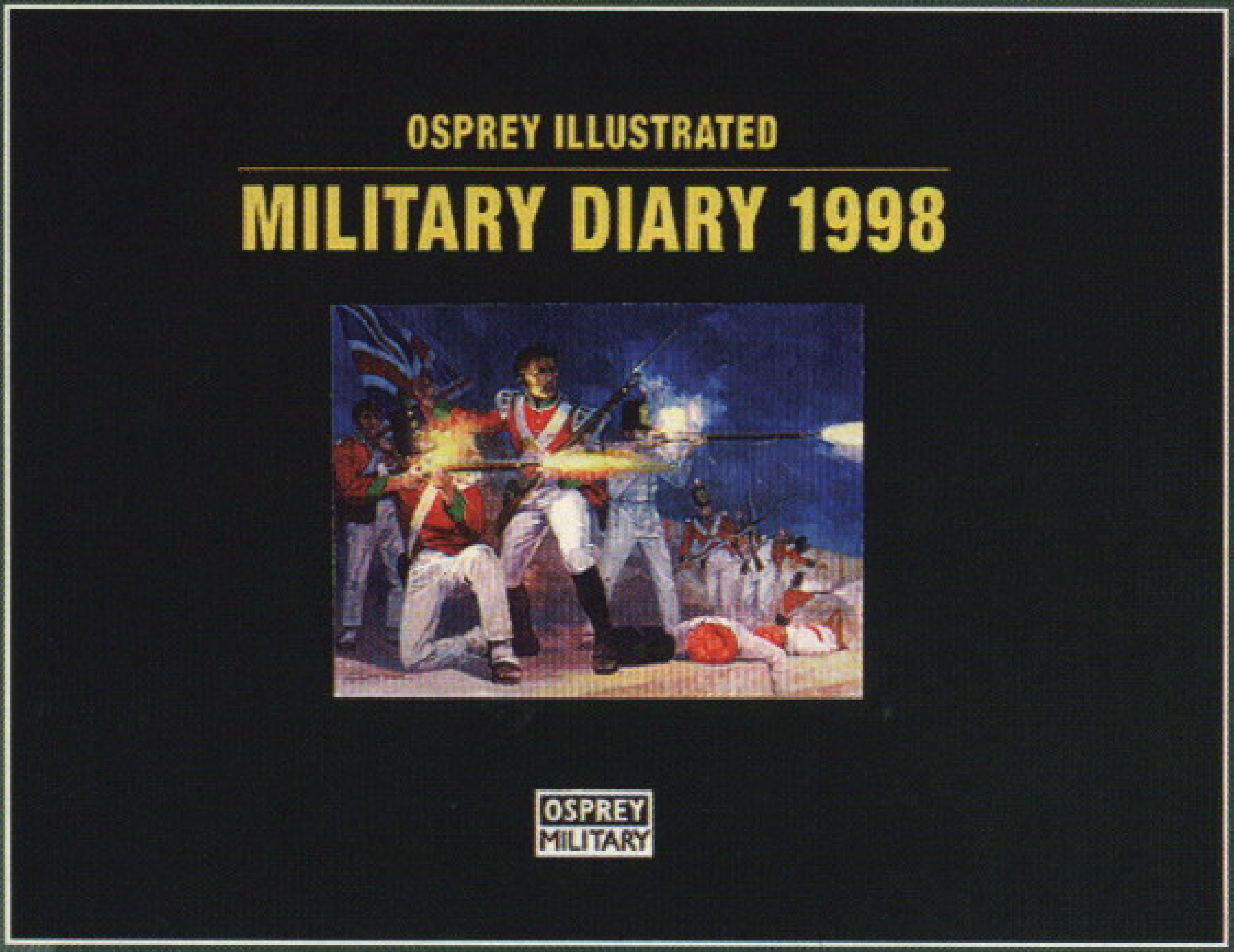
# MILITARY DIARY 1998



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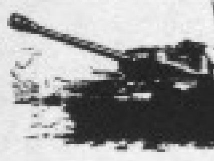

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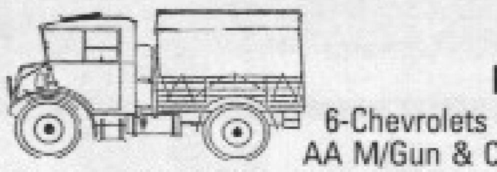

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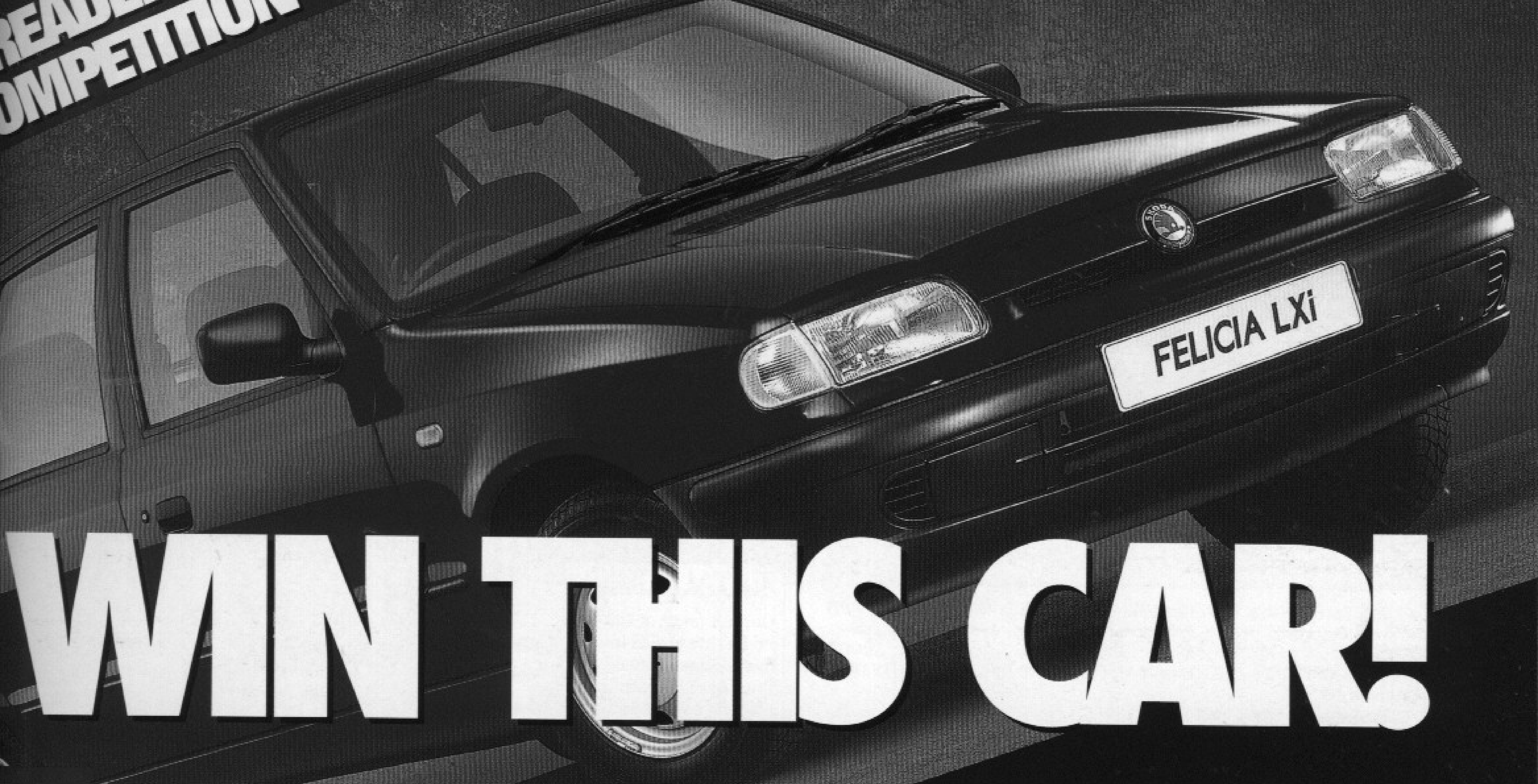

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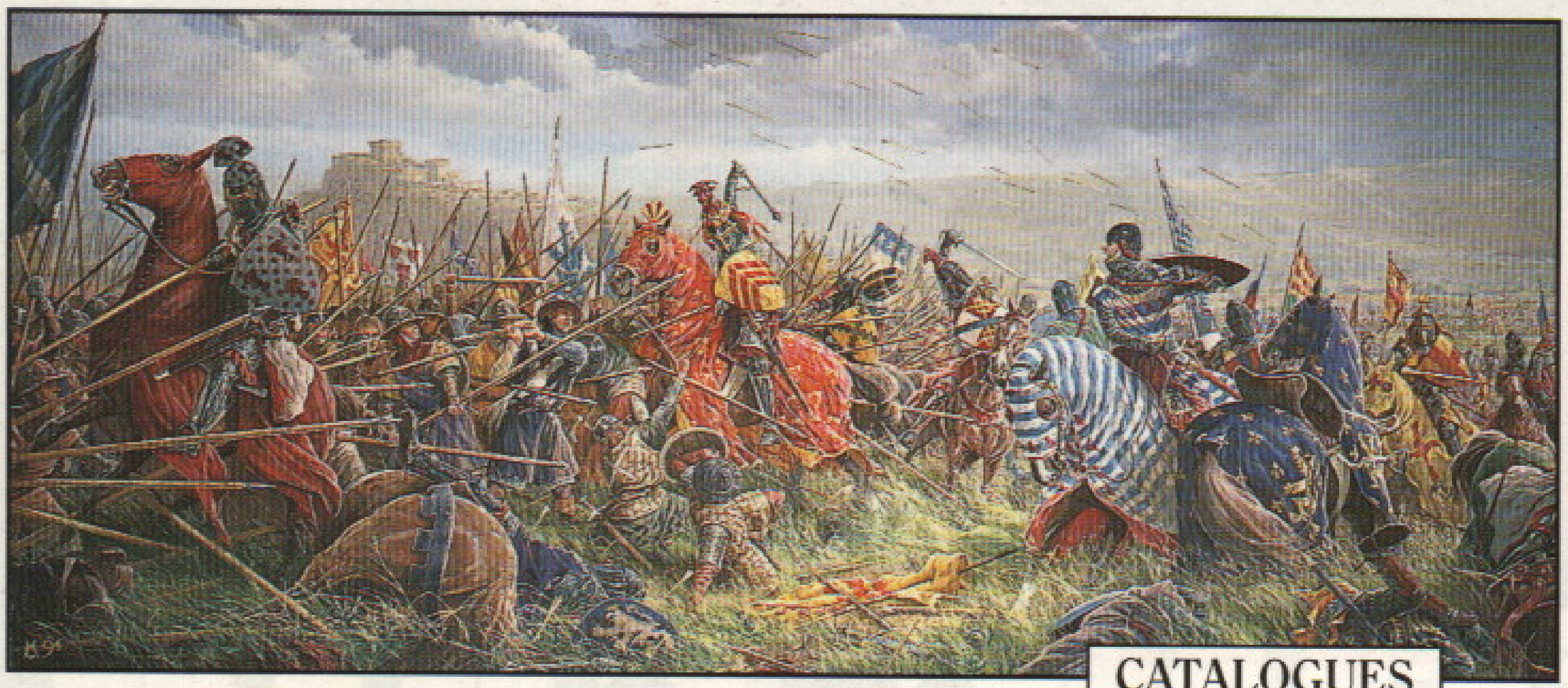
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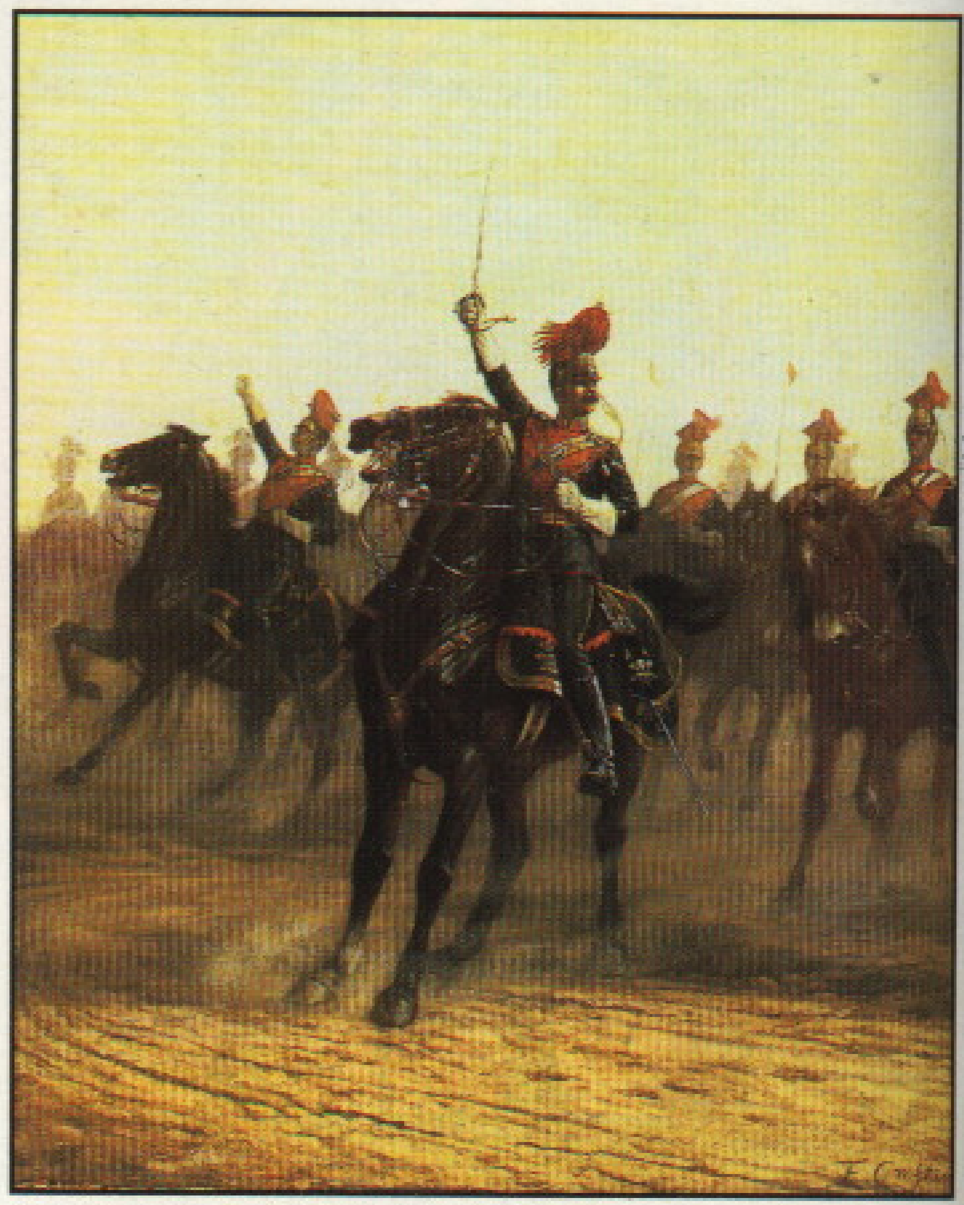
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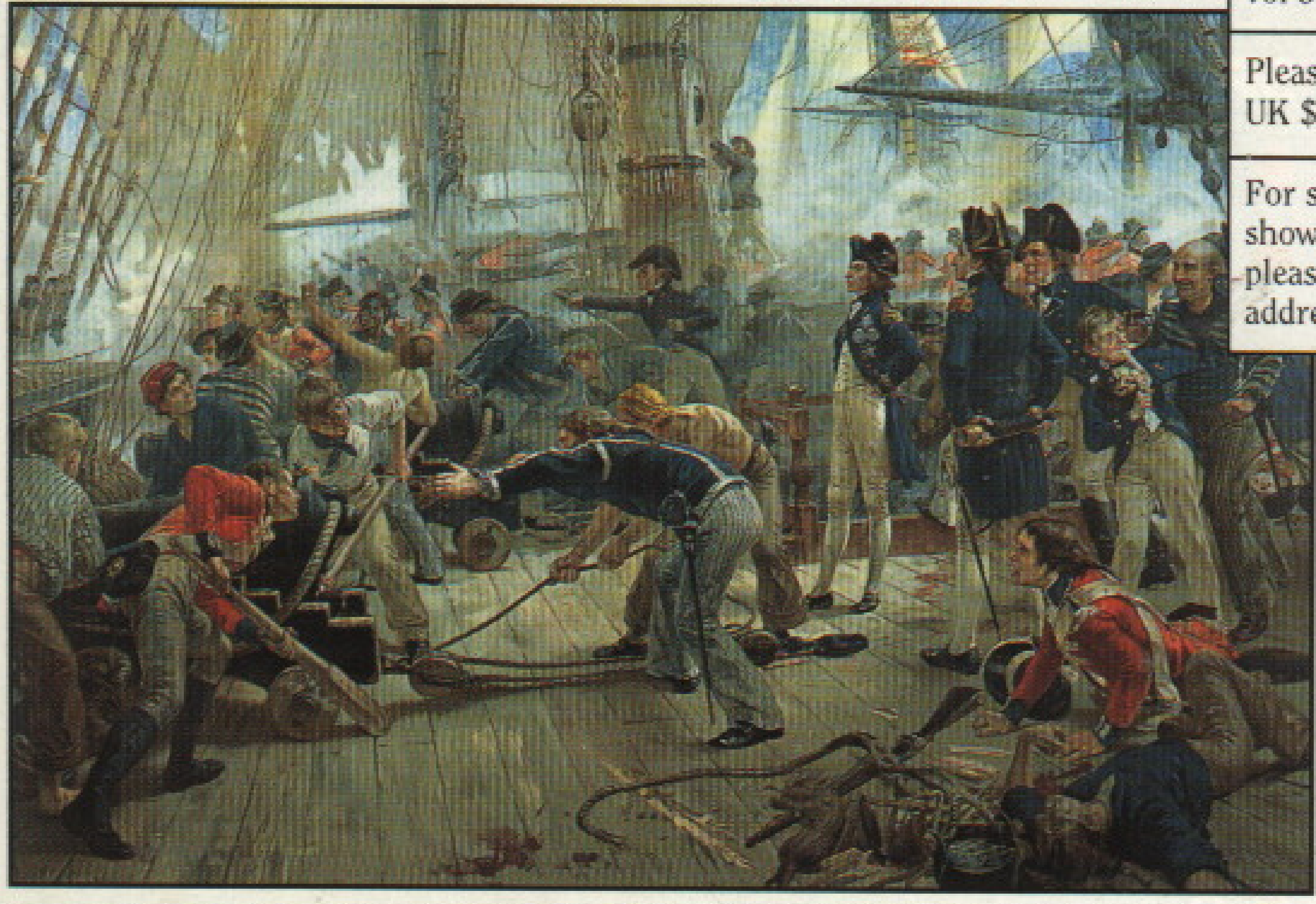
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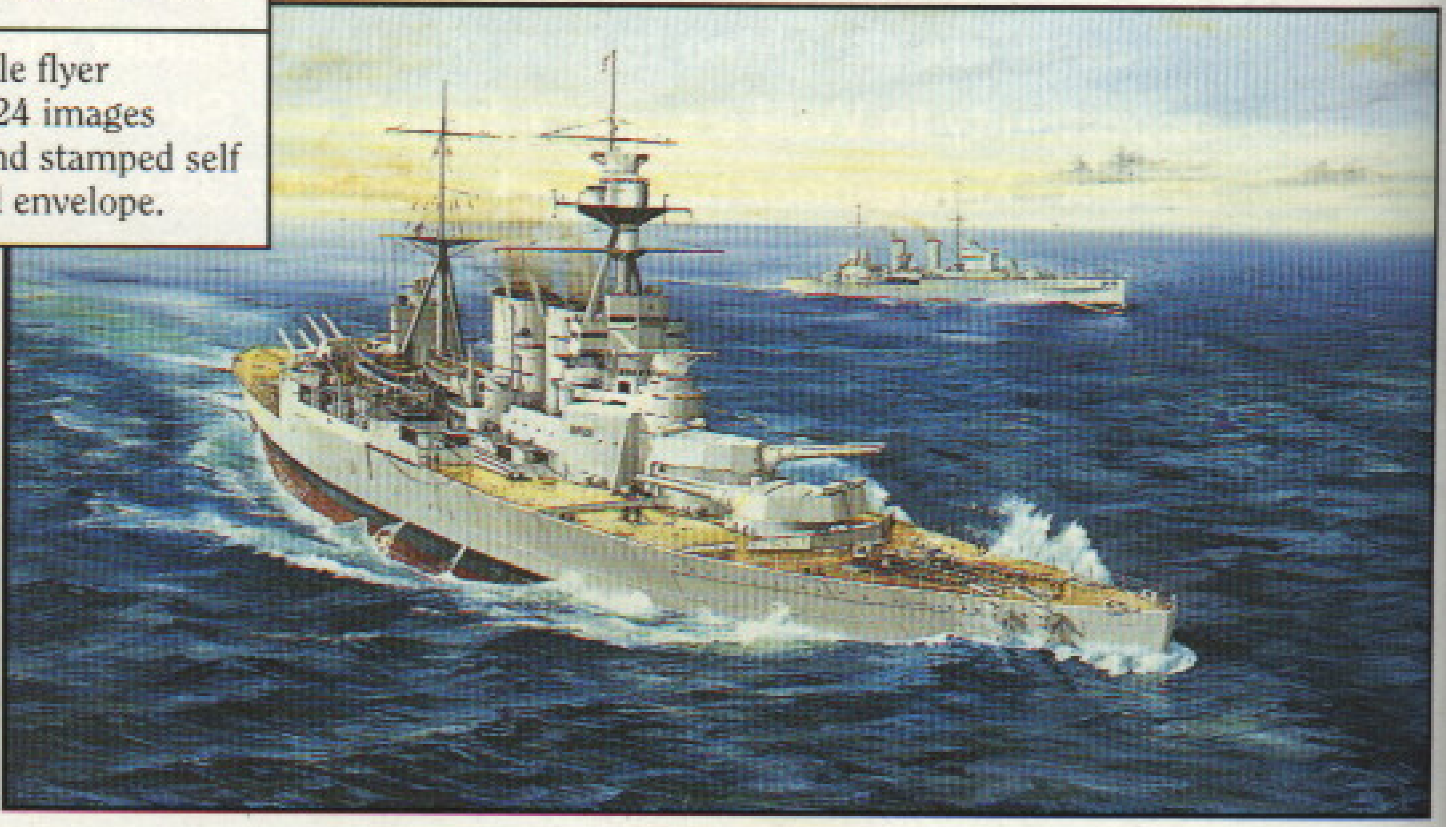
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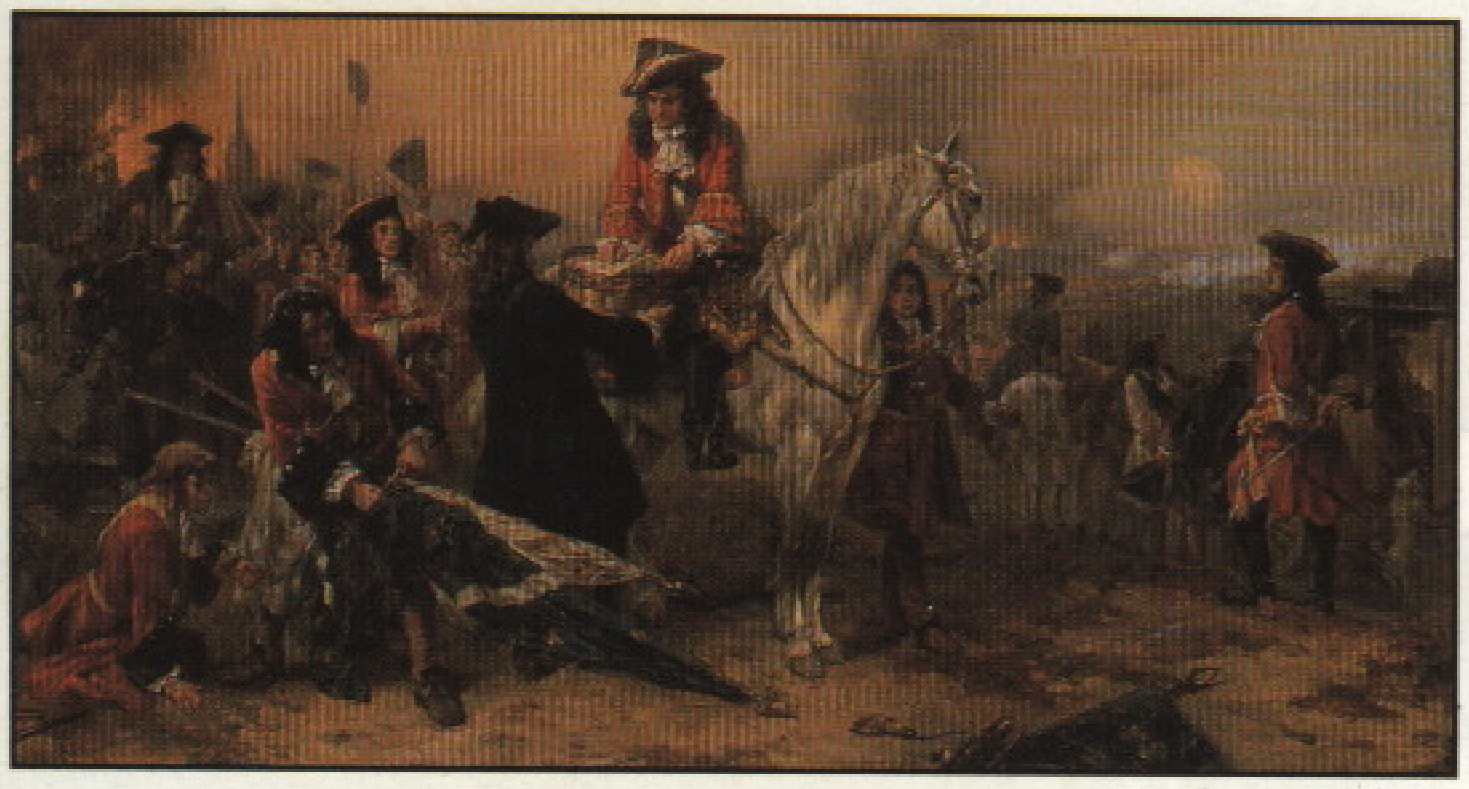
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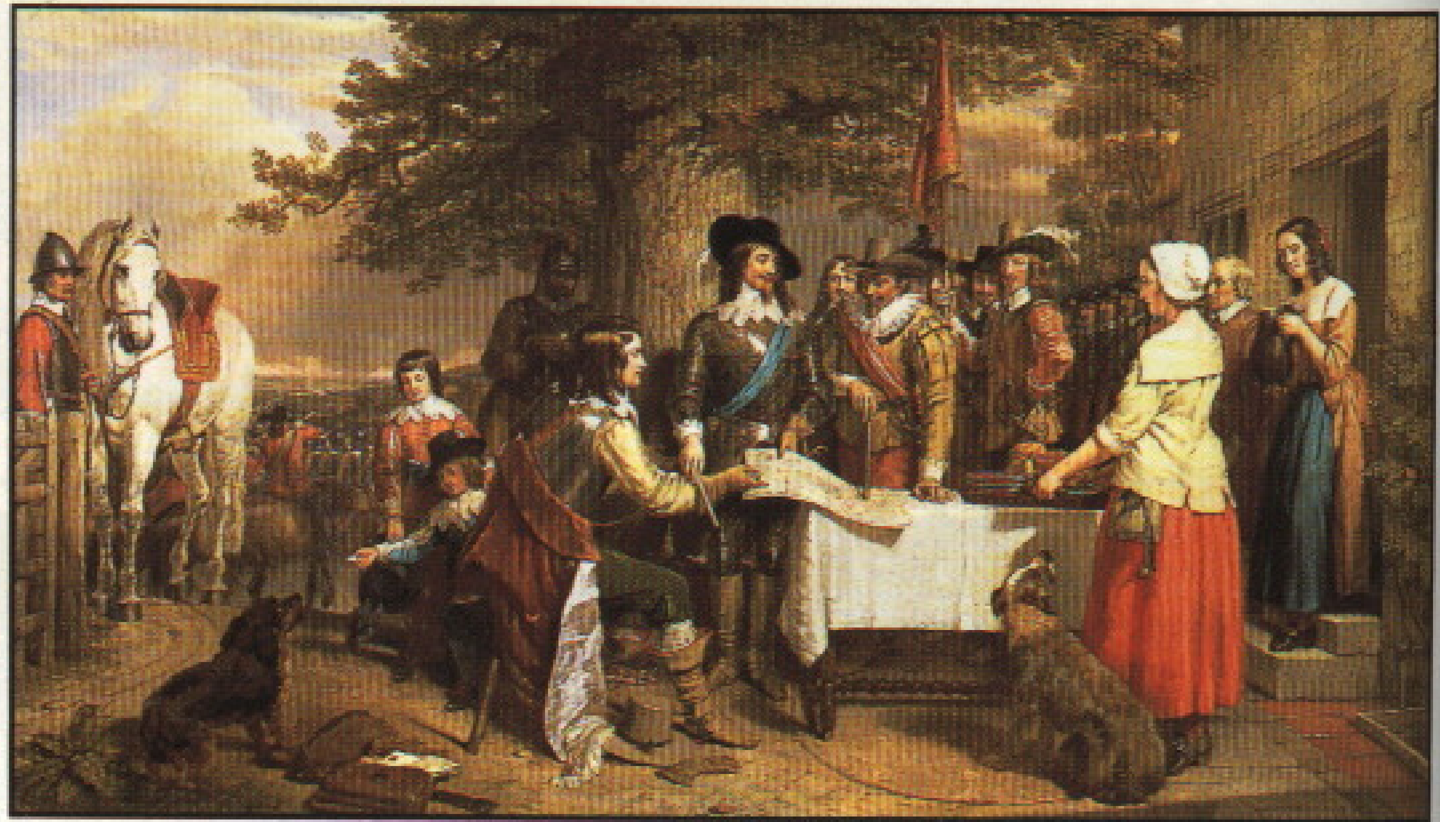
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